IBM Parallel System Support
Programs for AIX

Diagnosis and Messages Guide

GC23-3899-04

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Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page ix.

Fourth Edition (October, 1997)

This is a major revision of GC23-3899-03.

This edition applies to Version 2 Release 3 of IBM Parallel System Support Programs for AIX (5765-529), which runs on IBM RS/6000 Scalable POWERparallel Systems, and to all subsequent releases and modifications until otherwise indicated in new editions. Significant changes or additions to the text and illustrations are indicated by a vertical line (|) to the left of the change.

This edition also contains information about support for the SP Switch Router Adapter that was added as a PTF to PSSP 2.3.

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This product includes software that is publicly available:

expect	Programmed dialogue with interactive programs
Kerberos	Provides authentication of the execution of remote commands
NTP	Network Time Protocol
Perl	Practical Extraction and Report Language
SUP	Software Update Protocol
Tcl	Tool Command Language
TclX	Tool Command Language Extended
Tk	Tcl-based Tool Kit for X-windows

This book discusses the use of these products only as they apply specifically to the SP system. The distribution for these products includes the source code and associated documentation. (Kerberos does not ship source code.) **/usr/lpp/ssp/public** contains the compressed **tar** files of the publicly available software. (IBM has made minor modifications to the versions of Tcl and Tk used in the SP system to improve their security characteristics. Therefore, the IBM-supplied versions do not match exactly the versions you may build from the compressed **tar** files.) All copyright notices in the documentation must be respected. You can find version and distribution information for each of these products that are part of your selected install options in the **/usr/lpp/ssp/README/ssp.public.README** file.

About This Book

The *IBM Parallel System Support Programs for AIX: Diagnosis and Messages Guide* helps you diagnose SP system problems and describes error messages, their meaning, and appropriate actions to take to recover from problems. (Note that the scope of this book is limited to the Parallel System Support Programs that run on the SP System. For problems encountered in IBM products that run on the SP System, such as LoadLeveler and Parallel Environment, refer to the appropriate documentation listed in "Related Publications" on page xiv.)

Additional task information for System Administrators is covered in separate manuals.

Other books that help you administer and use the SP system include:

- The *IBM Parallel System Support Programs for AIX: System Planning* book helps you plan for the SP system. It describes how to prepare for software installation and provides considerations for integrating it into your existing computing network.
- The *IBM Parallel System Support Programs for AIX: Installation and Migration Guide* helps you understand and perform SP installation, configuration, and maintenance. It includes concepts and instructions for:
  - Installing and configuring the IBM Parallel System Support Programs (PSSP) for AIX
  - Migrating to the latest PSSP level
  - Reconfiguring the system
  - Performing system maintenance
- The *IBM Parallel System Support Programs for AIX: Command and Technical Reference* provides detailed syntax and parameter information for all commands you can use to install, customize, and maintain the SP system.

This book applies to PSSP Version 2 Release 3. To find out what version of PSSP is running on your system, enter the following:

```
SDRGetObjects SP code_version
```

In response, the system displays something similar to:

```
code_version
PSSP-2.3
```

If the response indicates **PSSP-2.3**, this book applies to the version of PSSP that is running on your system.

To find out what version of PSSP is running on the nodes on your system, enter the following:

```
splst_versions -G -t
```

In response, the system displays something similar to:

```
1 PSSP-2.3
3 PSSP-2.3
7 PSSP-2.2
8 PSSP-2.2
```

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If you are running mixed levels of PSSP, be sure to maitain and refer to the appropriate documentation for whatever versions of PSSP you are running.

Who Should Use This Book

This book is for system administrators responsible for setting up and maintaining the SP system. It assumes that readers have a working knowledge of AIX* or UNIX** and experience with network systems.

The System Administrators Guide of USENIX (SAGE), has developed a classification for skills required for system administration as published in "Job Descriptions for System Administrators." Administrators of small SP Systems (one or two frames in a relatively simple environment) are expected to have level II skills (Junior System Administrator). Administrators of larger SP Systems are expected to have level III skills (Intermediate/Advanced System Administrator).

Parts of this book can also be used by system operators or others who need to monitor the status of the hardware and software or interact with the power and reset controls.

How This Book Is Organized

This book is divided into two sections:

- "Section 1: Diagnosis Information" on page 1 contains information to help you diagnose hardware and software problems you may encounter while installing or operating the SP system.
- "Section 2: SP Messages" on page 139 lists error messages, explains their meanings, and describes actions to take to correct problems.

Typographic Conventions

This book uses the following typographic conventions:

Typographic	Usage
Bold	• **Bold** words or characters represent system elements that you must use literally, such as commands, flags, and path names. • **Bold** words also indicate the first use of a term included in the glossary.
Italic	• *Italic* words or characters represent variable values that you must supply. • *Italics* are also used for book titles and for general emphasis in text.
`Constant width`	Examples and information that the system displays appear in `constant width` typeface.
[ ]	Brackets enclose optional items in format and syntax descriptions.
{ }	Braces enclose a list from which you must choose an item in format and syntax descriptions.
|	A vertical bar separates items in a list of choices. (In other words, it means "or.")
< >	Angle brackets (less-than and greater-than) enclose the name of a key on the keyboard. For example, <**Enter**> refers to the key on your terminal or workstation that is labeled with the word Enter.
...	An ellipsis indicates that you can repeat the preceding item one or more times.
<**Ctrl-***x*>	The notation <**Ctrl-***x*> indicates a control character sequence. For example, <**Ctrl-c**> means that you hold down the control key while pressing <**c**>.

Accessing Online Information

In order to use the IBM Parallel System Support Programs for AIX man pages or access the PSSP online (HTML) publications, the **pssp.docs** file set must first be installed. To view the PSSP online publications, you also need the following:

- Access to a common HTML document browser (such as Netscape, WebExplorer, or Mosaic).
- The location of the HTML index file provided with the pssp.docs file set. Contact your system administrator or installer for this location.

Obtaining Documentation

You can view this book or download a PostScript version of it from the IBM RS/6000 web site at **http://www.rs6000.ibm.com**. At the time this manual was published, the full path was **http://www.rs6000.ibm.com/resource/aix_resource/sp_books**. However, the structure of the RS/6000 web site can change over time.

Related Publications

SP Publications

- *IBM RS/6000 SP: Planning, Volume 1, Hardware and Physical Environment, GA22-7280.*
- IBM RS/6000 SP: Planning, Volume 2, Control Workstation and Software Environment, GA22-7281.
- *IBM RS/6000 SP: Maintenance Information, Volume 1, Installation and CE Operations*, GC23-3903
- *IBM RS/6000 SP: Maintenance Information, Volume 2, Maintenance Analysis Procedures and Parts Catalog*, GC23-3904
- *IBM RS/6000 SP: Installation Aid Licensed Program Specification*, GC23-3838

Parallel System Support Programs for AIX Publications

- *IBM Parallel System Support Programs for AIX: Administration Guide*, GC23-3897
- *IBM Parallel System Support Programs for AIX: Installation and Migration Guide*, GC23-3898
- *IBM Parallel System Support Programs for AIX: Command and Technical Reference*, GC23-3900
- *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference*, SC23-3996
- *IBM Parallel System Support Programs for AIX: Group Services Programming Guide and Reference*, SC28-1675
- *IBM Parallel System Support Programs for AIX: Licensed Program Specification*, GC23-3901

As an alternative to ordering the individual books, you can use SBOF-8587 to order the entire SP software library.

IBM Virtual Shared Disk Publication

- *IBM Parallel System Support Programs for AIX: Managing Shared Disks,*, SA22-7279

Performance Monitor Publication

- *IBM Performance Toolbox Parallel Extensions for AIX: Guide and Reference*, SC23-3997

LoadLeveler Publications

- *Using and Administering LoadLeveler*, SC23-3989
- *IBM LoadLeveler: Licensed Program Specification*, GH23-0040

Parallel Environment for AIX Publications

- *IBM Parallel Environment for AIX: Hitchhiker's Guide*, GC23-3895
- *IBM Parallel Environment for AIX: Operation and Use, Volume 1*, SC28-1979
- *IBM Parallel Environment for AIX: Operation and Use, Volume 2*, SC28-1980
- *IBM Parallel Environment for AIX: Installation Guide*, GC28-1981
- *IBM Parallel Environment for AIX: Messages*, GC28-1982
- *IBM Parallel Environment for AIX: MPL Programming and Subroutine Reference*, GC23-3893
- *IBM Parallel Environment for AIX: MPI Programming and Subroutine Reference*, GC23-3894
- *IBM Parallel Environment for AIX: Licensed Program Specification*, GC23-3896

As an alternative to ordering the individual books, you can use SBOF-8588 to order the entire Parallel Environment for AIX library.

PVMe for AIX Publications

- *IBM PVMe for AIX: Fact Sheet*, GC23-3907
- *IBM PVMe for AIX: User's Guide and Reference*, GC23-3884
- *IBM PVMe for AIX: Licensed Program Specification*, GC23-3885

Client Input Output/Sockets (CLIO/S) Publications

- *IBM CLIO/S General Information*, GC23-3879
- *IBM CLIO/S Licensed Program Specification*, GC23-3789
- *IBM CLIO/S User's Guide and Reference*, GC28-1676

Parallel I/O File System Publications

- *IBM AIX Parallel I/O File System: Fact Sheet*, G325-0649
- *IBM AIX Parallel I/O File System: Installation, Administration, and Use*, SH34-6065
- *IBM AIX Parallel I/O File System: Licensed Program Specification*, GH34-6066

Network Tape Access and Control System for AIX (NetTAPE) Publications

- *IBM NetTAPE General Information*, GC23-3990
- *IBM NetTAPE User's Guide and Reference*, available from your IBM representative

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Other IBM Publications

International Technical Support Organization Publications (Red Books)

- *IBM International Technical Support Centers Implementing High Availability on RS/6000 SP*, SG24-4742
- *IBM International Technical Support Centers RS/6000 SP High Availability Infrastructure*, SG24-4838
- *IBM International Technical Support Centers RS/6000 SP PSSP 2.2 Technical Presentation*, SG24-4868
- *IBM International Technical Support Centers RS/6000 SP PSSP 2.3 Technical Presentation*, SG24-2080

AIX and RS/6000 Publications

- *IBM AIX Version 4 Getting Started*, SC23-2527
- *IBM AIX General Concepts and Procedures for RS/6000*, GC23-2202
- *IBM AIX Version 4 Files Reference*, SC23-2512
- *IBM AIX Version 4.1 System Management Guide: Communications and Networks*, SC23-2526
- *IBM AIX Version 4.1 Installation Guide*, SC23-2550
- *IBM AIX Version 4.2 Installation Guide*, SC23-1924
- *IBM AIX Version 4 Commands Reference*, SBOF-1851 (all volumes)
- *IBM AIX Versions 3.2 and 4.1 Performance Tuning Guide*, SC23-2365
- *IBM AIX Version 4 Problem Solving Guide and Reference*, SC23-2606
- *IBM AIX Version 4 Messages Guide and Reference*, SC23-2641
- *IBM AIX Version 4.1 Network Installation Management Guide and Reference*, SC23-2627
- *IBM AIX Version 4.2 Network Installation Management Guide and Reference*, SC23-1926
- *IBM AIX Version 4 System Management Guide: Operating System and Devices*, SC23-2525
- *IBM AIX Version 4 General Programming Concepts: Writing and Debugging Programs*, SC23-2533
- *IBM AIX Version 4 Communications Programming Concepts*, SC23-2610
- *Diskless Workstation Management Guide*, SC23-2433
- *C++ for AIX/6000: Language Reference*, SC09-1606
- *C++ for AIX/6000: Standard Class Library Reference*, SC09-1604
- *C++ for AIX/6000: User's Guide*, SC09-1605
- *IBM Performance Toolbox 1.2 and 2.1 for AIX: Guide and Reference*, SC23-2625

Service

- *IBM AIX Version 3.2 Problem Solving Guide and Reference*, SC23-2204
- *IBM AIX Version 4 Problem Solving Guide and Reference*, SC23-2606
- *Information Manual for Diagnostics Micro Channel Bus*, SA23-2765
- *7012 300 Series Operator Guide*, SA23-2623
- *7012 300 Series Installation and Service Guide*, SA23-2624
- *7013 500 Series Operator Guide*, SA38-0530
- *7013 500 Series Installation and Service Guide*, SA38-0531
- *Electrical Safety for IBM Customer Engineers*, S229-8124
- *Service Information Binder*, SX33-6060
- *7015 Model R30 CPU Enclosure Operator Guide*, SA23-2742
- *7015 Model R30 CPU Enclosure Installation and Service Guide*, SA23-2743
- *Supplemental Information for 7012 G Series Models, 7013 J Series Models, 7015 Models R30 and R40* (No order number — this book comes as part of the ship group with the SP hardware)

Network Queueing System/MVS (NQS/MVS)

- *IBM NQS/MVS Installing and Administering*, SC23-0232
- *IBM NQS/MVS Client User's Guide*, SC23-0231
- *IBM NQS/MVS General Information*, GC23-3684
- *IBM NQS/MVS Licensed Program Specifications*, SC23-0233

Network Connectivity

- *IBM LAN Cabling System Planning and Installation Guide*, GA27-3361
- *IBM Cabling System Optical Fiber Planning and Installation Guide*, GA27-3943
- *IBM 8250/8260/8285 Multiprotocol Intelligent Hub: Planning and Preparation Guide*, GA33-0191
- *IBM 6611 Network Processor: Introduction and Planning Guide*, GK2T-0334

Adapters

- *SP Switch Router Adapter Guide*, GA22-7310
- *FDDI Introduction and Planning Guide*, GA27-3892
- *FDDI User's Guide and Programming Reference*, SC28-2823
- *Planning for Fiber Optic Channel Links*, GA23-0367
- *IBM Token-Ring Network Introduction and Planning Guide*, GA27-3677
- *RS/6000 Token Ring Adapter Card*, G511-1681
- *HiPPI User's Guide and Programmer's Reference*, SA23-0369 and SA23-2488
- *AIX Parallel and ESCON Channel Tape Attachment/6000 Installation and User's Guide*, GA32-0311
- *9334 SCSI Expansion Units Operator Guide*, GA33-3232

- *9334 Models 010 and 011 SCSI Expansion Units: Installation and Service Guide*, SY33-0165
- *9334 Models 500 and 501 SCSI Expansion Units: Installation and Service Guide*, SY33-0167
- *SCSI-2 Fast/Wide Adapter*, SC23-2646
- *IBM SCSI-2 Fast/Wide Adapter/A Technical Reference*, S83G-7545
- *Turboways 100 User's Guide ATM*, GA27-4057
- *9333 Model 010 and 011 High-Performance Disk-Drive Subsystem Operator Guide*, GA33-3208
- *9333 Model 010 and 011 High-Performance Disk-Drive Subsystem Installation and Service Guide*, SY33-0161
- *9333 Model 010 and 011 High-Performance Disk-Drive Subsystem Hardware Technical Information*, SA33-3209
- *9333 Model 500 and 501 High-Performance Disk-Drive Subsystem Operator Guide*, GA33-3234
- *9333 Model 500 and 501 High-Performance Disk-Drive Subsystem Installation and Service Guide*, SY33-0168
- *9333 Model 500 and 501 High-Performance Disk-Drive Subsystem Hardware Technical Information*, SA33-3235
- *IBM SCSI Tape Drive, Medium Changer, and Library Device Drivers Installation and User's Guide*, GC35-0154

Non-IBM Publications

Parallel Computing

- Almasi, G., Gottlieb, A., *Highly Parallel Computing*, Benjamin-Cummings Publishing Company, Inc., 1989.
- Gropp, W., Lusk, E., Skjellum, A., *Using MPI*, The MIT Press, 1994.
- Message Passing Interface Forum, MPI: *A Message-Passing Interface Standard*. Version 1.1, University of Tennessee, Knoxville, Tennessee, June 6, 1995.
- Foster, I., *Designing and Building Parallel Programs*. Addison-Wesley, 1995.
- Pfister, Gregory, F., *In Search of Clusters*. Prentice Hall, 1995.

Tcl

- Ousterhout, John K., *Tcl and the Tk Toolkit*, Addison-Wesley, Reading, MA, 1994, ISBN 0-201-63337-X.

Ascend GRF

Order according to your Ascend GRF IP switch model:

- Getting Started
- Configuration Guide
- Reference Guide

You can order the Ascend GRF as the IBM 9077.

Manual Pages for Public Code

The following manual pages for public code are available in this product:

SUP	/usr/lpp/ssp/man/man1/sup.1
NTP	/usr/lpp/ssp/man/man8/xntpd.8
	/usr/lpp/ssp/man/man8/xntpdc.8
Perl (Version 4.036)	/usr/lpp/ssp/perl/man/perl.man
	/usr/lpp/ssp/perl/man/h2ph.man
	/usr/lpp/ssp/perl/man/s2p.man
	/usr/lpp/ssp/perl/man/a2p.man
Perl (Version 5.003)	Man pages are in the /usr/lpp/ssp/perl5/man/man1 directory

Manual pages and other documentation for Tcl, TclX, Tk, and expect can be found in the compressed **tar** files located in **/usr/lpp/ssp/public**.

Section 1: Diagnosis Information

This section contains diagnosis information for the following:

- Chapter 1, “Diagnosing SP Problems Overview” on page 3.
- Chapter 2, “Error Logging Overview” on page 5.
- Chapter 3, “Diagnosing Hardware and Software Problems” on page 15.
- Chapter 4, “Diagnosing Frame Supervisor Communication Problems” on page 17.
- Chapter 5, “Diagnosing SDR Problems” on page 19.
- Chapter 6, “Diagnosing Authentication Problems” on page 21.
- Chapter 7, “Diagnosing SP Remote Command Problems” on page 31.
- Chapter 8, “Diagnosing Switch Problems” on page 33.
- Chapter 9, “Diagnosing System Connectivity Problems” on page 61.
- Chapter 10, “Diagnosing System Monitor Problems” on page 63.
- Chapter 11, “Diagnosing Resource Manager Problems” on page 67.
- Chapter 12, “Diagnosing User Access Problems” on page 77.
- Chapter 13, “Diagnosing NIM Problems” on page 83.
- Chapter 14, “Diagnosing Node Installation Problems” on page 89.
- Chapter 15, “Diagnosing Boot Problems” on page 91.
- Chapter 16, “Diagnosing IP Routing Problems” on page 93.
- Chapter 17, “Diagnosing Print Problems” on page 95.
- Chapter 18, “Diagnosing Devices Including the Hard Disk” on page 97.
- Chapter 19, “Verifying System Management Installation” on page 99.
- Chapter 20, “Producing a System Dump” on page 105.
- Chapter 21, “Diagnosing IBM Virtual Shared Disk Problems” on page 109.
- Chapter 22, “Diagnosing 604 High Node Problems” on page 117.
- Chapter 23, “Diagnosing Dependent Node Configuration Problems” on page 119.
- Chapter 24, “Diagnosing File Collections Problems” on page 127.
- Chapter 25, “SP-Specific LED Values” on page 129.

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Chapter 1. Diagnosing SP Problems Overview

This chapter contains information to help you diagnose problems you may encounter while installing or operating the SP system. It helps you to identify whether a problem is related to the hardware or the software. It also shows you the procedure to follow if you require assistance from IBM Support.

Identifying SP Problems

While operating the SP system, you may encounter situations that indicate a problem.

- The symptoms of some of these problems may be as obvious as a message returned when you enter an SP command or use a SMIT menu. Many of the SP messages are printed in the logs. In these cases, you can look up the message in the Messages chapter of this book for an explanation and recovery suggestions. See "Section 2: SP Messages" on page 139.
- The symptoms of other problems may not directly indicate the cause of the difficulty. At times it may be hard to tell if the problem is related to:
  - SP hardware
  - SP software
  - Other hardware or software related to the boot/install servers and control workstation

  In these cases, you should refer to Chapter 3, "Diagnosing Hardware and Software Problems" on page 15 to analyze the symptoms and identify the source of the problem.

Getting Help From IBM

If you require help from IBM in resolving an SP system problem, you can get assistance by calling IBM Support at the numbers listed below.

Before you call, be sure you have the following information:

1. Your access code (customer number).
2. The SP product number: **5765-296**.

   This is important information that will speed the correct routing of your call.
3. The name and version of the operating system you are using.
4. A telephone number where you can be reached.

The person with whom you speak will ask for the above information and then give you a time period during which an IBM SP representative will call you back.

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In the United States:

The number for IBM software support is **1-800-237-5511**.
The number for IBM hardware support is **1-800-IBM-SERV**.

Outside the United States, contact your local IBM Service Center.

Sending Problem Data to IBM

You may be asked to produce a system dump and send it to the IBM support office. Refer to Chapter 20, “Producing a System Dump” on page 105 for instructions on how to produce this information.

To send the data to IBM, label the tape or diskette with the problem number and mail it to:

IBM RS/6000 Scalable POWERparallel Systems
Dept. 39KA, M/S P961, Bldg. 415
522 South Road
Poughkeepsie, N.Y. 12601-5400

ATTN: APAR Processing

Opening a Problem Management Record (PMR)

A PMR is an online software record used to keep track of software problems reported by customers.

Follow your local support/service procedures for opening a PMR.

Note: To aid in quick problem determination and resolution, it will be very useful to have the SDR data specific to the problem included in the PMR.

SDR data can be obtained through the **splstdata** command. Use the appropriate command flag to view data relevant to the problem. For example:

splstdata -e Lists environment choices

splstdata -n Lists node information

splstdata -s Lists switch information

For more information on **splstdata**, refer to *IBM Parallel System Support Programs for AIX: Command and Technical Reference*.

Chapter 2. Error Logging Overview

This section describes methods for managing the AIX Error Log on the SP system. Commands and SMIT interfaces for performing general log management, and for managing Syslog and the AIX Error Log, are also installed with the **sysman** option. Refer to the Error Log Management chapter in *IBM Parallel System Support Programs for AIX: Administration Guide* for an overview.

Error logging is the writing of information to persistent storage to be used for debugging purposes. This type of logging is for subsystems that perform a service or function on behalf of an end user. The subsystem does not communicate directly with the end user and, therefore, needs to log events to some storage location. The events that are logged are primarily error events.

Error logging for the SP uses Berkley Software Distribution (BSD) syslog and AIX Error Log facilities to report events on a per node basis. The System Monitor, the High Performance Switch, and the Resource Manager components use this form of error logging. In follow-on releases, additional software components will use this form of error logging. The intent is to have the AIX Error Log be the starting point for diagnosing system problems.

Error log entries include a "DETECTING MODULE" string that identifies the software component, module name, module level, and line of code or function that detected the event that was logged. The information is formatted depending on the logging facility the user is viewing. For example the AIX Error Log facility information appears:

```
DETECTING MODULE
LPP=LPP name Fn=file name SID_level_of_the_file L#=Line number
```

The BSD syslog facility information appears:

```
timestamp, hostname, ID, PID
LPP=LPP name Fn=file name SID_level_of_the_file L#=Line number
```

Classifying Error Log Events

The following table displays the mapping of SP error log suffixes to syslog priorities and AIX Error Log error types.

Table 1 (Page 1 of 2). SP Error Label Suffixes Mapped to syslog and AIX Error Log

Error Label Suffix	syslog Priority Field	syslog Description	AIX Error Log Error Type	AIX Error Log Description
EM	LOG_EMERG	Emergency, system unstable	PEND	The loss of availability of a device is imminent.
ER	LOG_ERR	Error condition	PERM	No recovery from this condition. A permanent error occurred.
ST	LOG_NOTICE	Normal, but significant condition	UNKN	It is not possible to determine the severity of the error.

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Table 1 (Page 2 of 2). SP Error Label Suffixes Mapped to syslog and AIX Error Log

Error Label Suffix	syslog Priority Field	syslog Description	AIX Error Log Error Type	AIX Error Log Description
TR	LOG_INFO	Informational message	UNKN	It is not possible to determine the severity of the error.
RE	LOG_DEBUG	Debug message	TEMP	Condition was recovered after several unsuccessful attempts.
DE	LOG_DEBUG	Debug message	UNKN	It is not possible to determine the severity of the error.

Effect of Not Having a Battery on Error Logging

In a typical RS/6000, a battery is installed to maintain NVRAM. On an SP system there is no battery and NVRAM may be lost when the node is powered off. AIX writes the last error log entry to NVRAM. During system startup the last entry is read from NVRAM and placed in the error log when the errdemon is started. This last error log entry may be important in diagnosis of a system failure.

On SP wide nodes the NVRAM does have power to it as long as the node is plugged into the frame and the frame is plugged into a power source with power. On SP thin nodes, NVRAM is lost whenever the node is powered down. If the last error log entry is desired, the thin nodes should not be powered off. They should be re-IPLed in the “normal” key mode switch position if at all possible.

Managing and Monitoring the Error Log

To manage and monitor the error log, you can do the following:

- View error log information in parallel
- View SP switch error log reports
- Use AIX error log notification.

Viewing Error Log Information in Parallel

It may be helpful to diagnose a system problem to look at all of the error logs at once in parallel.

It is not a good idea to copy the /**var**/**adm**/**ras**/**errlog** files from the various nodes to a central place and then run **errpt** against the combined file. First, copying time is added to the sequential processing time of all the nodes and the total time required will be longer than viewing the logs in parallel. Second, error log processing requires per node information from the ODM database (on each node).

Use **dsh** with the **errpt** command and options to view the error log. It is helpful to do the following:

1. View the summary information for all nodes to determine which ones are to be examined more closely. For example:

   ```
   dsh -a errpt -s 0930020094 |pg
   ```

In this example, all error entries that occurred after September 30, 1994 at 2 a.m. for every node defined in the System Data Repository, are listed. The output is piped to **pg** in a one entry per line format.

2. Pick out the nodes that have error entries that need more examination.
3. View the selected nodes. For example:

   ```
   dsh -w host1,host2,host3 errpt -a -s 0930020094 > /tmp/930errors
   ```

   This example collects all the fully expanded error log reports after September 30, 1994 at 2 a.m. from nodes with a hostname of **host1, host2, host3**.

Viewing SP Switch Error Log Reports

Enter the following command to view all the SP switch adapter error reports in parallel:

```
dsh -a errpt -a -N css
```

It sends to stdout all the fully-formatted error log entries for all unusual status detected for the switch adapter device drivers that are contained in the error log. This may be for the past 90 days. AIX has a default **crontab** entry that removes all hardware error entries after 90 days and all software error entries after 30 days.

Enter the following command to view all the SP switch information in parallel:

```
dsh -a errpt -a -N Worm
```

It sends to stdout all the fully-formatted error log entries for the switch. This includes errors found during switch diagnostics.

Using the AIX Error Log Notification Facility

You can be notified of an SP error when it occurs by using the AIX Error Notification Facility.

IBM General Concepts and Procedures for RS/6000 (GC23-2202) explains how to use the AIX Error Notification Facility. The *IBM RS/6000 Problem Solving Guide* (SC23-2204) explains the use of the AIX Error Log. This facility will perform an ODM method defined by the administrator when a particular error occurs or a particular process fails.

The following classifications of errors can have notification objects defined by the administrator. Many of these messages will not occur often, so these notification objects can be defined even for large SP systems.

1. **PSSP AIX Error Log Labels that end in _EM.**

   The EM suffix signifies an emergency error and is usually used to tell the administrator information that would be needed to re-IPL a node. To find these messages, issue:

   ```
   errpt -t |grep "_EM "
   ```

2. **Any AIX Error Log entries that have an Error Type of PEND.**

   PEND signifies an impending loss of availability and that action will soon be required of the administrator.

3. **Any AIX Error Log entries for the boot device of the node.**

   The boot device of the node usually has a resource name of **hdisk0**, but the name may vary if the installation has been customized.

4. **The AIX Error Label EPOW_SUS.**

   The EPOW_SUS error log entry is generated prior to power down when an unexpected loss of electrical power is encountered.

5. **The AIX Error Labels KERN_PANIC and DOUBLE_PANIC.**

   KERNEL_PANIC or DOUBLE_PANIC error log entries are generated when a kernel panic occurs.

The examples on the following pages may help the administrator in adding Error Notification Objects on the SP Adding a **dsh -a** to the ODM commands will perform the action on all nodes of the SP.

Example 1: Mail the error report to **root@controlworkstation** when a switch adapter fails online diagnostics.

- **Step 1**. Set up directories for the Error Notification objects and methods.

  ```
  mkdir /customerdefinedpath/errnotify/objects
  mkdir /customerdefinedpath/errnotify/methods
  ```

  Keep the methods scripts on each node so you can run them if distributed file system problems occur. File Collections is an excellent way to keep these scripts updated. The object files may be in a distributed file system since they are not used unless changes to the object are required.

- **Step 2**. Create the Error Notification Method scripts.

  Create a script or program that will be run when the error occurs. For example:

  ```
  #!/bin/ksh
  ######################################################################
  # Run errpt to get the fully expanded error report for the error
  # that was just written and redirect to a unique tempfile with the PID
  #of this script.
  ######################################################################
  errpt -a -l $1 > /tmp/tempfile.$$
  ######################################################################
  # Mail the fully expanded error report to root@controlworkstation
  # This could be anywhere in the network.
  # root@controlworkstation is the user and hostname that the
  # administrator wants to be notified at.
  ######################################################################
  mail root@controlworkstation < /tmp/tempfile.$$
  ```

- **Step 3**. Create the Error Notification Object

  Create a file that contains the Error Notification Object to catch the switch diagnostic failed error.

  ```
  errnotify:
            en_name = "tbx_diagerr.obj"
            en_persistenceflg = 1
            en_label = "HPS_DIAG_ERROR2_ER"
            en_method = "/customerdefinedpath/methods/errnot.
                        test.ksh$1"
  ```

  (The **en_name** value can be only 16 characters long.) Enter **odmshow errnotify** to view the Error Notification object.

  It is easier to modify an existing set of ODM errnotify stanzas. To do this, enter:

```
odmget errnotify > file
```

and edit the file. Include only attributes that have values.

- **Step 4.** Add the Error Notification Object to the errnotify class.

  ```
  odmadd  /customerdefinedpath/object/tbx_diagerr.obj
  ```

  (The file name is the name of the file with the Error Notification Object in it.)

  To delete this object, enter:

  ```
  odmdelete -o errnotify -q "en_name = tbx_diagerr.obj"
  ```

  To view this object in the ODM database, enter:

  ```
  odmget  -q "en_name = tbx_diagerr.obj" errnotify
  ```

- **Step 5.** The following mail will be sent to **root@controlworkstation** when a switch adapter fails diagnostics:

```
From root@sp2n5.kgn.ibm.com Mon Oct  3 11:25:59 1994
Received: from sp2n5.kgn.ibm.com by ppsras.kgn.ibm.com (AIX 3.2/UCB 5.64/4.03)
          id AA24781; Mon, 7 May 1995 10:14:59 -0400
Date: Mon, 3 Oct 1994 11:25:59 -0400
From: root
Message-Id: <9410031525.AA24781@sp2n5.kgn.ibm.com>
To: root
Status: RO

 ---------------------------------------------------------------------------
ERROR LABEL: HPS_DIAG_ERROR2_ER
ERROR ID: 323C48A0

Date/Time:       Mon Oct  3 11:25:57
Sequence Number: 18282
Machine Id:      000004911800
Node Id:         sp2n5
Error Class:     H
Error Type:      PERM
Resource Name:   Worm
Resource Class:  NONE
Resource Type:   NONE
Location:        NONE

Error Description
Switch adapter failed On-Line diagnostics

Probable Causes
Switch clock signal missing
Switch adapter failure

User Causes
Switch cable disconnected

Recommended Actions
Run adapter diagnostics

Failure Causes
Switch adapter

Recommended Actions
Run adapter diagnostics

Detail Data
DETECTING MODULE
LPP=PSSP,Fn=pubstest.ksh,SID=1.0,Func=main,
Service Request Number
Testing Error Notify
```

Example 2: Error Notification when any Error Type of PEND occurs.

- **Steps 1 and 2** are the same as defined in the switch diagnostic failure example.
- **Step 3.** Create the Error Notification Object

  Create a file that contains the Error Notification Object to catch the pending availability problems. For example:

```
errnotify:
        en_name = "errnot.PEND.obj"
        en_persistenceflg = 1
        en_type = "PEND"
        en_method = "/tmp/errnot.test.ksh $1"

errnotify:
        en_name = "errnot.pend.obj"
        en_persistenceflg = 1
        en_type = "pend"
        en_method = "/tmp/errnot.test.ksh $1"

errnotify:
        en_name = "errnot.Pend.obj"
        en_persistenceflg = 1
        en_type = "Pend"
        en_method = "/tmp/errnot.test.ksh $1"
```

  (The variations of PEND are added because upper case is not strictly adhered to by all AIX LPPs and vendors.)

- **Step 4.** Add the Error Notification Objects to the errnotify class. For example:

```
odmadd  /customerdefinedpath/object/errnot.pend.obj
```

  (The file name is the name of the file with the Error Notification Object in it.)

  To delete these objects enter:

```
odmdelete -o errnotify -q "en_name = errnot.PEND.obj"
odmdelete -o errnotify -q "en_name = errnot.pend.obj"
odmdelete -o errnotify -q "en_name = errnot.Pend.obj"
```

  To view this object in the ODM database, enter:

```
odmget  -q "en_name = errnot.PEND.obj" errnotify
odmget  -q "en_name = errnot.pend.obj" errnotify
odmget  -q "en_name = errnot.Pend.obj" errnotify
```

- **Step 5**. Mail is sent to the administrator when an error that has an Error Type of PEND occurs.

Example 3: Error Notification when any Error on the boot device of **hdisk0** occurs.

- **Step 1 and 2** are the same as defined in the switch diagnostic failure example.
- **Step 3**. Create the Error Notification Object.

  Create a file that contains the Error Notification Object to catch the boot disk errors. (Assumes **hdisk0** is the boot device.)

```
errnotify:
        en_name = “errnot.boot.obj”
        en_persistenceflg = 1
        en_resource = “hdisk0”
        en_method = “/tmp/errnot.test.ksh $1”
```

- **Step 4**. Add the Error Notification Object to the errnotify class.

  ```
  odmadd  /customerdefinedpath/object/errnot.boot.obj
  ```

  To delete this object, enter:

  ```
  odmdelete -o errnotify -q “en_name = errnot.boot.obj”
  ```

  To view this object in the ODM database, enter:

  ```
  odmget  -q “en_name = errnot.boot.obj” errnotify
  ```

- **Step 5**. Mail with the fully expanded error report will be sent to the administrator when an error on **hdisk0** occurs.

Example 4: Error Notification when unexpected power loss and kernel panics occur.

- **Steps 1 and 2** are the same as defined in the switch diagnostic failure example.
- **Step 3**. Create the Error Notification Object

  Create a file that contains the Error Notification Object to catch the kernel panic and power loss Error Labels. For example:

  ```
  errnotify:
                en_name = “power.obj”
                en_persistenceflg = 1
                en_label = “EPOW_SUS”
                en_method = “/customerdefinedpath/methods/
                            errnot.test.ksh $1”

  errnotify:
                en_name = “panic.obj”
                en_persistenceflg = 1
                en_label = “KERNEL_PANIC”
                en_method = “/customerdefinedpath/methods/
                            errnot.test.ksh $1”

  errnotify:
                en_name = “dbl_panic.obj”
                en_persistenceflg = 1
                en_label = “DOUBLE_PANIC”
                en_method = “/customerdefinedpath/methods
                            /errnot.test.ksh $1”
  ```

- **Step 4.** Add the Error Notification Object to the errnotify class. For example:

  ```
  odmadd  /customerdefinedpath/object/power.panic.obj
  ```

  The file name is the name of the file with the Error Notification Object in it.

- **Step 5**. Mail with the fully expanded error report will be sent to the administrator when any power loss or kernel panic occurs.

Using the SP Logs

The SP System uses the standard logs provided by both AIX and the public domain software it includes, as well as SP-specific logs. Some logs reside on the control workstation only, and some reside only on the SP nodes. Others reside on both. Table 2 summarizes and shows the location of the logs you can reference when diagnosing SP problems.

Your IBM Support representative may ask you to provide information from these logs.

Table 2 (Page 1 of 2). SP Log Files

Type of Message	Log File	Location
SP Logging Daemon state changes (Note this is not shipped activated. To activate, refer to Chapter 10, "Diagnosing System Monitor Problems".)	**/var/adm/SPlogs/spmon/splogd.state_changes.** *timestamp*	Control workstation
Hardware Monitor initialization and error messages	**/var/adm/SPlogs/spmon/hmlogfile.** *julian_date*	Control workstation
Messages generated by system daemons, including hardware errors	**/var/adm/SPlogs/SPdaemon.log**	Control workstation
Automounter messages	**/var/adm/SPlogs/auto/auto.log**	Control workstation, nodes
Standard AIX error log entries including the High Performance Switch and SP Switch	**/var/adm/ras/errlog**	Nodes
Description of problems that arise while switch is initializing	**/var/adm/SPlogs/css/out.top**	Primary node
Contains system error messages occurred during the distribution of the topology file to the node(s).	**/var/adm/SPlogs/css/dist_topology.log**	Primary node
Initialization messages from the High Performance Switch and SP Switch support code	**/var/adm/SPlogs/css/rc.switch.log**	Nodes
supper messages	**/var/adm/SPlogs/filec**	Nodes
Resource Manager messages	**/var/adm/SPlogs/jm/jmd_out**	Control workstation and nodes
Resource Manager errors	**/var/adm/SPlogs/jm/jmd_err**	Control workstation and nodes
System Data Repository configuration messages	**/var/adm/SPlogs/sdr/SDR_config.log**	Control workstation
System Data Repository error messages	**/var/adm/SPlogs/sdr/sdrdlog.***pid*	Control workstation
SP SNMP Agent messages	**/var/tmp/SPlogs/spmgr/spgrd.log**	Control workstation, nodes

Table 2 (Page 2 of 2). SP Log Files

Type of Message	Log File	Location
SP extension node messages	**/var/adm/SPlogs/spmgr/spmgrd.log**	Control workstation
System shutdown and startup messages.	**/var/adm/SPlogs/cs**	Control workstation
Login control messages	**/var/adm/SPlogs/spacs/spacs.log**	Nodes
System Management console messages	**/var/adm/SPlogs/sysman/***node***.console.log**	Control workstation, Nodes
System Management configuration messages	**/var/adm/SPlogs/sysman/***node***.config.log**	Nodes
Sysctl server log messages	**/var/adm/SPlogs/sysctl/sysctld.log**	Nodes, control workstation
Primary authentication server	**/var/adm/SPlogs/kerberos/kerberos.log**	Primary authentication server
Authentication database admin daemon	**/var/adm/SPlogs/kerberos/admin_server.syslog**	Primary authentication server
Secondary authentication server	**/var/adm/SPlogs/kerberos/kerberos.slave_log**	Secondary authentication server
Authentication database propagation daemon	**/var/adm/SPlogs/kerberos/kpropd.log**	Secondary authentication server
SP configuration Vital Product Data	**/var/adm/SPlogs/SPconfig**	Control workstation, nodes
Node conditioning messages	**/var/adm/SPlogs/spmon/nc/nc.***frame***.***node*	Control workstation
Microcode download messages	**/var/adm/SPlogs/spmon/ucode/ucode_log.***frame***.***node*	Control workstation

Samples of these logs and how to read them are in the diagnosis section for each Parallel System Support Programs component.

Log files are cleaned up on the nodes by **cleanup.logs.nodes**. Log files are cleaned up on the control workstation by **cleanup.logs.ws**. By default, continuously growing logs are trimmed to 400 lines every night and non-growing files are deleted after seven days. The exceptions are:

- The supper message log, which is deleted after two days.
- The SDR log, which is deleted after seven days, only if it is **not** the current log.
- The css (switch) logs, which are not trimmed.
- The **sysctld** logs, which are not trimmed.
- The **SPdaemon.log**, which is trimmed.
- The Resource Manager message log is truncated when it reaches 1MB.

- The Resource Manager error log is truncated when it reaches 50KB.
- The SP entension node SNMP Manager log file size is controlled by the user when the daemon is started.

Chapter 3. Diagnosing Hardware and Software Problems

This section provides troubleshooting information for the SP hardware and software. It contains tables to help you isolate the cause of SP problems and recover from them. The first table describes the high level symptoms and gives you a course of action or directs you to other tables to further analyze the problem. Note that some of the tables in the diagnosing sections for the various components list recovery actions. Such actions are further described within the body of the section.

High-Level Symptoms

The following table lists the high-level symptoms you may experience and directs you to the corresponding diagnosis section.

Symptoms	Condition	Action
controllerResponds indicator on the System Monitor is red, **SPdaemon.log** reports this variable as 0, or the System Monitor displays blank nodes	Frame supervisor failure	Go to Chapter 4, “Diagnosing Supervisor Communication Problems”
You get error messages when you start the switch or applications that use the switch fail or hang.	Switch Failure	Go to Chapter 8, “Diagnosing Switch Problems” on page 33
switchResponds indicator on the System Monitor is red, meaning that the node is not currently available to the switch network. When the indicator is yellow, the node is available to, but not part of, the network.	Switch or switch adapter problems	Go to Chapter 8, “Diagnosing Switch Problems” on page 33
Applications using the Resource Manager cannot get access to parallel nodes or the Resource Manager fails	Resource Manager problems	Go to Chapter 11, “Diagnosing Resource Manager Problems”
The **spmon**, **hmmon**, or **hmcmds** commands fail, you cannot start the System Monitor GUI, or you are having trouble running it.	System Monitor problem	Go to Chapter 10, “Diagnosing System Monitor Problems”
Cannot monitor or operate hardware controls, cannot power frames, nodes, switch on or off	Hardware problem or System Monitor problem	Go to Chapter 10, “Diagnosing System Monitor Problems”
The configuration indicated by the SDR and the System Monitor do not match your system's configuration.	Frame Supervisor connectivity problem.	Go to Chapter 4, “Diagnosing Frame Supervisor Communication Problems” on page 17.
3DigitDisplay indicator on the System Monitor displays three-digit codes	Hardware or software problem	Check Chapter 25, “SP-Specific LED Values” on page 129 to see if the code is discussed there. If not, refer to *IBM RS/6000 Problem Solving Guide*, SC23-2204
Node hangs, cannot access system (**ping, rsh**) or node crashes with **888** in the *3DigitDisplay* indicator	Hardware or software problem	Go to Chapter 20, “Producing a System Dump”

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Symptoms	Condition	Action
You have an orange icon at any level of the System Monitor topology display	System connectivity problem	Go to Chapter 9, “Diagnosing System Connectivity Problems”
Cannot **ping** on the external network, **rsh**, **telnet**, **rlogin** fail	System connectivity problem	Go to Chapter 9, “Diagnosing System Connectivity Problems”
User access problems, cannot log in, password is invalid, cannot get to home directory	Software problem	Go to Chapter 12, “Diagnosing User Access Problems”
You get an error message in response to an SP command on the control workstation	Hardware or software problem	Look up the message in the message section of this book and follow the action suggested in the message explanation.

Chapter 4. Diagnosing Frame Supervisor Communication Problems

Symptom	Recovery
The System Monitor panels are displaying blanks instead of expected information after installation The *controllerResponds* indicator on the System Monitor frame environment panel is red The **/var/adm/SPlogs/SPdaemon.log** reports that the Frame Controller is not responding	Check the RS-232 cable connection from the control workstation to the affected frames,
The *controllerResponds* indicator on the System Monitor reports a failure	Action 1. Verify Parallel System Support Programs Installation Action 2. Verify RS-232 Connection Action 3. Verify Serial Port Configuration Action 4. Check the Frame Configuration Action 5. Check the Log for Messages Action 6. Check Frame Power
The configuration indicated by the SDR and the System Monitor do not match your system's configuration.	Action 2. Verify RS-232 Connection Action 3. Verify Serial Port Configuration Action 4. Check the Frame Configuration
None of the other symptoms exists and the nodes have their power on	Call IBM support

Action 1. Verify Parallel System Support Programs Installation

Run verification tests using SMIT or the command line to ensure installation is complete.

Using SMIT:

TYPE **smit SP_verify**

- The Installation/Configuration Menu appears.

SELECT The SSP System Management option.

PRESS Enter.

Using the command line, enter:

```
/usr/lpp/ssp/bin/SYSMAN_test
```

Action 2. Verify RS-232 Connection

Ensure that the RS-232 line is connected to the correct frame and the correct serial port on the control workstation.

Using SMIT:

TYPE **smit SP_verify**

- The Installation/Configuration Menu appears.

SELECT SSP System Monitor Configuration

PRESS Enter.

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Using the command line, enter:

```
/usr/lpp/ssp/bin/spmon_ctest
```

If the RS-232 cables were not connected to the proper frames and you have already configured the frames using the **spframe** command, you must perform the following:

1. Use **spdelfram** to delete the affected frames *before* you re-cable the frames.
2. Re-cable the RS-232 to the proper frames.
3. Re-add the frames using the **spframe** command.

Action 3. Verify Serial Port Configuration

Check the baud rate of the serial port. The System Monitor configures this for you when it starts. Use the **stty** command and redirect input from the correct serial port. For example:

```
stty < /dev/tty0
```

Action 4. Check the Frame Configuration

Use SMIT (**smit list_data**) or **splstdata -f** Use SMIT (**smit list_data**) or **splstdata -f** to verify that the proper serial port is specified for the frame. Check the values for your frames.

Action 5. Check the Log for Messages

Check the **/var/adm/SPlogs/SPdaemon.log** on the control workstation and respond to any messages. SP hardware problems will have a resource name of **sphwlog**. The same messages are found in **errpt**. To get full details of all SP hardware messages in **errpt**, enter:

```
errpt -aN sphwlog
```

(You should redirect the output of this command into a file; the output could be very large.)

Action 6. Check Frame Power

Visually check for power LEDs lit on any nodes, at frame power switch, and base power unit in the rear. If none are lit, you do not have power to the frame.

Chapter 5. Diagnosing SDR Problems

Symptom	Recovery
Non-zero return codes	Action 1: Get the Return Code
Cannot connect to server	Action 2. Analyze System or Network Changes
Class corrupted or non-existent	Action 3. Analyze Class Situation

Action 1. Get the Return Code

If you cannot run SDR commands, or a program that uses the SDR is failing when running SDR commands, get the return code or the message number from the failing SDR routine. The return codes from SDR routines are imbedded in the message numbers. The first four numbers in the SDR cataloged message are always **0025**, followed by a hyphen and a three-digit number. The three digit number is the return code. For example, the following SDR message is issued with a return code of 80 from any SDR routine that cannot connect to the SDR server:

```
0025-080 The SDR routine could not connect to server.
```

Some programs, like Resource Manager, report the return code from an SDR routine, but not the message. Use **0025** and the return code to find the appropriate message in "Section 2: SP Messages" on page 139.

Action 2. Analyze System or Network Changes

System or network changes could affect the SDR. If an SDR command fails to connect to the server, do the following:

1. Type **spget_syspar** on the node showing failing SDR commands.
2. If the **spget_syspar** command fails, check the /**etc**/**SDR_dest_info** file on the same node. It should have at least two records in it. These records are the **primary** and the **default** records. They should look like:

   ```
   primary: syspar_ip_address
   default: default_syspar_ip_address
   ```

   where *syspar_ip_address* is the address of the system partition that this node is in, or the default system partition if this file is on the control workstation; *default_syspar_ip_address* is the address of the default system partition. Note that these two addresses might be the same.

   If this file is missing or does not have these two records, the node may not be properly installed or the file has been altered or corrupted. You can edit the file that contains the two records above or copy the file from a working node in the same system partition.

   The **spget_syspar** command may also fail if:

   - The value of the *SP_NAME* environment variable is a hostname (not an IP address)

     AND
   - The system name server is not functioning properly.

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3. If the **spget_syspar** command is successful, check to make sure that the address is also the address of a valid system partition. If it is, try to **ping** that address. If the **ping** fails, contact your system administrator to investigate a network problem.
4. If the value returned by the **spget_syspar** command is not the same as the address in the **primary** record of the /**etc**/**SDR_dest** information file, the *SP_NAME* environment variable is directing SDR requests to a different address. Make sure that this address (the value of the *SP_NAME* environment variable) is a valid system partition.
5. If the value of the *SP_NAME* environment variable is a hostname, try setting it to the equivalent dotted decimal IP address. If SDR commands now work, the system name server is not functioning.
6. If the address returned by *spget_syspar* is a valid system partition address and **pings** to that address are successful, check for the existence of the SDR server process (**sdrd**) on the control workstation with:

   ```
   ps -ae | grep sdrd
   ```

   If the process is not running, do the following:

   a. Check the / directory for a core dump. If one exists, report it to IBM.
   b. Check the SDR server logs in /**var**/**adm**/**SPlogs**/**sdr**/**sdrdlog.***pid* where *pid* is a process ID.
   c. Issue /**usr**/**bin**/**startsrc -g sdr** to start the SDR daemon. Start checks again at step 5. If the SDR daemon is now running and continues to run, check the **sdrd** entry in the file /**etc**/**inittab** on the control workstation. It should read:

      ```
      sdrd:2:once:/usr/bin/startsrc -g sdr
      ```

Action 3. Analyze Class Situation

If an SDR command ends with RC=102 (internal data format inconsistency) or 026 (class does not exist), first make sure the class name is spelled correctly and the case is correct (see the table of classes and attributes in “The System Data Repository” appendix in the *IBM Parallel System Support Programs for AIX: Administration Guide*). Then, follow the steps in “SDR Shadow Files” in the The System Data Repository appendix in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

This condition could be caused by the /**var** filesystem filling up. If this is the case, either define more space for /**var** or remove unnecessary files.

If the problem persists, contact IBM.

Chapter 6. Diagnosing Authentication Problems

Users of the Kerberos-authenticated services have only a few ways of interacting with the authetication services of the SP system. In general, the sequence of operations required to perform an administrative task using these services consists of:

1. Identifying yourself to the authentication service. This process obtains a ticket-granting ticket for the client principal based on either a user's Kerberos password or a service's private key. The former is achieved interactively using the **kinit** command. Background processes running as root and executing shell scripts can use the **rcmdtgt** command to get a ticket as service principal **rcmd.***hostname*.
2. Invoking a client command for one of the authenticated services, such as **sysctl** or **spmon**. The client command uses Kerberos facilities to obtain a service ticket, the credentials that it passes to the application server to identify the invoking principal.
3. Using the **kdestroy** command to terminate the authenticated state by destroying any tickets found in a ticket cache file belonging to the client. If you do not use **kdestroy** or **rm** to remove the ticket cache file, then tickets it contains can be reused until they expire and are automatically removed by the next successful **kinit** command.

Error messages on stderr are the principal diagnosis tool for the user who experiences problems using these facilities. Errors reported by the authentication services themselves generally have the message number prefix **2502**, **2503**, or **2504**.

Symptom	Recovery
Problems establishing a user principal's identity	Action 1: Analyze Error Messages Action 2: Force the Propogation of Database Changes
Problems establishing a service principal's identity	Action 3. Analyze Error Messages Action 4. Compare Service Key Versions
Problems using authenticated services	Action 5. Analyze Error Messages
Problems with the Authentication Server Daemons	Action 6. Check for Network Problems, Interface, or Routing Problems
Daemons have Terminated	Action 7. Check Authentication Daemon Log Files

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Action 1: Analyze Error Messages

When identifying yourself to the authentication service, these are the most common error messages that you might encounter:

Bad Kerberos name format: You probably entered *name*.admin in response to the prompt "Kerberos name:". You are not allowed to specify an instance in addition to the name. If you want to enter the name and instance together, enter them as the command-line argument when you invoke **kinit**. To force **kinit** to prompt you separately for the instance, invoke it with the **-i** flag.

Kerberos principal unknown: You did not enter a principal name defined in the database. Perhaps you misspelled it, or the administrator did so when entering it into the database. This error can also occur when using a secondary authentication server, if the primary database has not been propagated since your principal was added. Check with the administrator responsible for maintaining the authentication service to determine if this is the case.

Incorrect Kerberos password: You entered the wrong password or your password was recently changed and has not yet been propagated to the secondary authentication server you are using. If you incorrectly entered your password, just try again. Otherwise, if you suspect an out-of-date database, contact the administrator of your authentication service. The recovery action in this situation is to force the propogation of database changes without waiting for the normal **cron** process.

Action 2. Force the Propagation of Database Changes

To force the propagation of database changes:

1. Issue the **kinit** command, specifying as your principal name any user principal listed in the root user's **.klogin** file on the primary server. The administrative principal name that was used to set up authentication on the primary server can be used, or any other user principal the administrator has subsequently added to the file.
2. Issue the following command to remotely perform the database propagation from the primary server to all secondary servers:

   ```
   /usr/lpp/ssp/rcmd/bin/rsh primary /usr/kerberos/etc/push-kprop
   ```

   where *primary* is the hostname of the primary server.

   Successful propagation is reported by a message for each secondary server hostname. If unsuccessful, review the **kpropd.log** file (see information on daemon log files below).

Action 3. Analyze Error Messages

The authentication service also provides commands that can be used to allow background processes to invoke authenticated services, when the **kinit** command cannot be issued, because no user is logged in to the client AIX system. Various SP installation and system management scripts use the **rcmdtgt** command to identify themselves to the authentication system and thereby obtain a ticket-granting ticket. This procedure should not fail; if it does, the most likely error message reported will be:

Incorrect Kerberos password: If this error occurs during installation or when performing administrative tasks requiring remote execution on SP nodes, it can indicate one of several error conditions:

- The process is not running as **root**. It cannot read the server key file, **/etc/krb-srvtab**, on the client system. You must, if authorized, log in as **root** and retry the failing task.
- The server key file is out-of-date with respect to the authentication database.
- The server key file does not exist.

Action 4. Compare Service Key Versions

An administrator running as **root** can compare the versions of the server keys in the server key file and the database using the **ksrvutil** or **klist** command on the server system and by examining a dump of the authentication database on the primary authentication server, when AFS is not being used.

Use the **ksrvutil** or **klist** command to show the version numbers of service keys in **/etc/krb-srvtab**. The following example shows the use of **ksrvutil** to display the key versions for service principals on a control workstation:

```
# ksrvutil list
Version    Principal
   2     rcmd.cwktr@XYZ.ABC.COM
   2     hardmon.cwktr@XYZ.ABC.COM
   2     rcmd.cwkfddi@XYZ.ABC.COM
   2     hardmon.cwkfddi@XYZ.ABC.COM
   2     rcmd.cwken1@XYZ.ABC.COM
   2     hardmon.cwken1@XYZ.ABC.COM
   2     rcmd.cwksta@XYZ.ABC.COM
   2     hardmon.cwksta@XYZ.ABC.COM
#
```

The following example shows the use of **klist** to display the key versions for service principals on an SP node:

```
# klist -srvtab
Server key file:   /etc/krb-srvtab
Service         Instance        Realm      Key Version
-----------------------------------------------------
rcmd            node3fi         XYZ.ABC.COM       1
rcmd            node3tr         XYZ.ABC.COM       1
rcmd            node3sw         XYZ.ABC.COM       1
rcmd            node3en         XYZ.ABC.COM       1
#
```

You can determine the versions of service keys in the authentication database by locating the entry for the target service principal in a dump of the SP authentication database. If you have secondary authentication servers, or if you use the procedure for backing up your database that is recommended in *IBM Parallel System Support Programs for AIX: Administration Guide*, the database dump can be found in file **/var/kerberos/database/slavesave** on the primary server host.

For example, if you encountered an authentication failure attempting to **rsh** to **node3sw**; you could inspect the database entry as follows:

```
# grep "^rcmd node3sw " /var/kerberos/database/slavesave
rcmd node3sw 255 1 2 0 a49bf286 d45c6560 200001010459 199503301502 root admin
#
```

The fifth field on the line is the key version number. In this example, the key version number is two (2).

When the key file, /**etc**/**krb-srvtab**, does not exist on the server system, or has the wrong key version, you must re-create the file. When the control workstation is an SP authentication server, customizing an SP node will automatically create a new server key file for the node. If customizing the node for this purpose is too disruptive, or if the system whose key file must be replaced is not an SP node, follow the procedures below.

Procedure: Re-creating Server Key Files: You can use authentication administration commands to re-create an erroneous or missing server key file. Each system with an SP authentication service installed has its own unique service key file, containing the encrypted keys for the service instances that are available on the system.

On the control workstation and other IBM RS/6000 workstations that have client services installed and initialized, the file contains entries for services **rcmd** and **hardmon**. Separate instances of these principals are defined for each network interface on the system, where the instance-name is the short form of the network name. So, for example, on a client system with token-ring and FDDI interfaces named **wksta5t.xyz.abc.com** and **wksta5f.def.abc.com**, the following principals are defined:

hardmon.wksta5f
hardmon.wksta5t
rcmd.wksta5f
rcmd.wksta5t

The service key files on these systems are created by the **setup_authent** command. On the SP nodes, only the **rcmd** entries are included, and the files are created by the **setup_server** command. During installation, they are kept in the /**tftpboot** directory on the control workstation, with file names of the form *hostname***-new-srvtab**, where *hostname* is the short form of the hostname for each node.

When the control workstation is an SP authentication server, these files are retained there only until copied to the node during network boot (or to the node's boot-install server, if the node boots from another node). A new server key file is generated any time the node is set up for a network boot.

When the control workstation is not configured as an authentication server, or when AFS authentication is used, the server key files for the SP nodes are not removed from the /**tftpboot** directory on the control workstation, once created.

If they are deleted or corrupted, or if you choose to change keys for any reason, follow the rest of the procedures to create new key files. In these procedures, *instance1 ...* are the network names (short form) of all the system's interfaces, and *hostname* is the short form of the system's hostname.

Procedure: Replacing an Authentication Server's Key File: To re-create the file for a workstation (control workstation or other) that is configured as an authentication server, the **root** user should use the following procedure.

```
# create new key files in the /tmp  directory for each instance
cd /tmp
/usr/kerberos/etc/ext_srvtab -n instance1 ...

# combine the key files into a single file
/bin/cat instance1-new-srvtab ... >/etc/krb-srvtab
/bin/rm -f instance1-new-srvtab  ...

# make sure the key file is readable only by root
/bin/chmod 400 /etc/krb-srvtab
```

Procedure: Replacing a Client Workstation's Key File: When a workstation is not an authentication server, the root user can use the remote commands to perform the same function on a server system and move the file to the local system. The principal name specified on the **kinit** command must be in the **root** user's **.klogin** file on the server:

```
# get a ticket-granting ticket to allow use of rsh/rcp
/usr/kerberos/bin/kinit principal

# create the new key files in /tmp on the server
/usr/lpp/ssp/rcmd/bin/rsh server cd /tmp\;
/usr/kerberos/etc/ext_srvtab -n instance1 ...

# copy the files we created to the local /tmp directory
/usr/lpp/ssp/rcmd/bin/rcp server:/tmp/instance1-new-srvtab ... /tmp

# delete the files on the server
/usr/lpp/ssp/rcmd/bin/rsh server /bin/rm -f /tmp/instance1-new-srvtab ...

# combine the local files into a single file
cd /tmp
/bin/cat instance1-new-srvtab ... >/etc/krb-srvtab
/bin/rm -f instance1-new-srvtab ...

# make sure the key file is readable only by root
/bin/chmod 400 /etc/krb-srvtab
```

Procedure: Replacing an SP Compute Node's Key File: The most straightforward way to replace a node's key file is to customize the node, using the **spbootins** command or SMIT. If you prefer, you can use procedures similar to the preceding example. If the control workstation is an SP authentication server, the **root** user, logged into the SP node whose server key file needs to be replaced, can use the procedure described previously for client systems. Specify the control workstation hostname as the *server*. When the control workstation is not an authentication server, the server key file must be re-created at the server and then placed in the /**tftpboot** directory on the control workstation. For this, the **root** user should be logged into the control workstation.

When the authentication server is another workstation running the SP server or another MIT Kerberos Version 4 implementation, use the following procedure:

```
# get a ticket-granting ticket to allow use of rsh/rcp
/usr/kerberos/bin/kinit principal

# create the new key files in /tmp on the server
/usr/lpp/ssp/rcmd/bin/rsh server cd /tmp\;
/usr/kerberos/etc/ext_srvtab -n instance1 ...

# copy the files we created to the control workstation
/usr/lpp/ssp/rcmd/bin/rcp server:/tmp/instance1-new-srvtab ...  /tmp

# delete the files on the server
/usr/lpp/ssp/rcmd/bin/rsh server /bin/rm -f /tmp/instance1-new-srvtab ...

# combine the local files into a single file in /tftpboot, whose
# name is hostname-new-srvtab.
cd /tmp
/bin/cat instance1-new-srvtab ...  >/tftpboot/hostname-new-srvtab
/bin/rm -f instance1-new-srvtab ...

# make sure the key file is readable only by root
/bin/chmod 400 /tftpboot/hostname-new-srvtab
```

The new key file can then be installed on the node by either:

- customizing the node.
- logging into the node as root, and using **rcp** to copy the file from /tftpboot on the control workstation to /etc/krb-srvtab.
- using **ftp** to copy the file (not a secure method).

Procedure: Replacing a Server Key File Using AFS Servers: When an AFS authentication server is being used, follow this procedure and be sure you are logged in to the control workstation as **root**.

```
# change the service password to a new known but random value
# repeat this step for each instance (i.e. short network name)
kas setpassword -name rcmd.instance1
  -new_password any-random-password \
  -kvno 1 -admin_username afs-admin-name
  -password_for_admin afs-admin-passwd

# use the same principals and passwords to create a srvtab file
/usr/kerberos/bin/ksrvutil -afs -f /tftpboot/hostname-new-srvtab add

# ksrvutil is an interactive program whose sequence of prompts and
# messages appear as follows:
Name: rcmd
Instance: instance1
Realm: <Enter>
Version number: 0
New principal: rcmd.instance1@realm; Version 0
Is this correct? y
Password:
Key successfully added.
Would you like to add another key?
(reply y until all instances have been entered)

# make sure the key file is readable only by root
/bin/chmod 400 /tftpboot/hostname-new-srvtab
```

Action 5. Analyze Error Messages

When you use any of the Kerberos-authenticated client/server applications to administer or control the SP system, the error messages you receive on authentication failures will vary according to the application. For example, if you are using the command-line interface, you might see error messages such as the following indicating that **spmon** is unable to obtain credentials from the authentication service:

```
0026-706 Cannot obtain service ticket for hardmon.cwksta
Kerberos error code is 76, Kerberos error message is:
     2504-076 Kerberos ticket file was not found.
spmon: 0026-001 Opening session failed.
```

The message states that you have no tickets, expired or unexpired, or your **KRBTKFILE** environment variable specifies a nonexistent file.

The following message states that you have tickets that have expired in the ticket cache file specified by your KRBTKFILE environment variable or defaulted.

```
0026-706 Cannot obtain service ticket for hardmon.cwksta
Kerberos error code is 32, Kerberos error message is:
     2504-032 Kerberos ticket expired.
spmon: 0026-001 Opening session failed.
```

If application error messages indicate probable authentication failure, use the **klist** command to check your authentication status. The command always displays the current active ticket cache file, whether specified by the **KRBTKFILE** environment variable or the default file, /**tmp**/**tkt***uid*.

The following is a listing of the default ticket cache file for the root user (uid 0):

```
# klist
Ticket file:    /tmp/tkt0
Principal:  root.admin@XYZ.ABC.COM

  Issued           Expires          Principal
Nov 12 16:26:11  Dec 12 16:26:11  krbtgt.XYZ.ABC.COM@XYZ.ABC.COM
Nov 12 16:26:46  Dec 12 16:26:46  hardmon.cwksta@XYZ.ABC.COM
Nov 12 16:45:15  Dec 12 16:45:15  rcmd.cwksta@XYZ.ABC.COM
#
```

The second line shows the Kerberos principal acting as client, to whom the tickets belong. This is the user principal you supplied to the **kinit** command, or the **rcmd**.*instance* service principal used by **rcmdtgt**. The list of tickets always begins with the ticket-granting ticket. The others are service tickets; in this case for the System Monitor service on the control workstation (**hardmon**) and the SP Remote Command service also on the control workstation (**rcmd**).

Action 6. Check for Network Problems, Interface, or Routing Problems

Other more or less common errors may result from the inability to communicate with the Kerberos authentication and administrative servers. If this is the case, check for network problems or interface and routing problems. You can also check the state of the server daemons themselves on systems running the SP authentication server. The primary server system should have **kerberos** and **kadmind** daemons running (from init).

The following example shows the /**etc**/**inittab** entries for the Kerberos daemons on a primary server:

```
> lsitab kerb
kerb:2:respawn:/usr/kerberos/etc/kerberos
> lsitab kadm
kadm:2:respawn:/usr/kerberos/etc/kadmind -n
>
```

A secondary server system should have **kerberos** and **kpropd** daemons running (from init).

The following example shows the /etc/inittab entries for the Kerberos daemons on a secondary server:

```
> lsitab kerb
kerb:2:respawn:/usr/kerberos/etc/kerberos -s
> lsitab kpropd
kpropd:2:respawn:/usr/kerberos/etc/run-kpropd
>
```

Action 7. Check Authentication Daemon Log Files

Each Kerberos daemon program records errors and some status in a log file in the /**var**/**adm**/**SPlogs**/**kerberos** directory. Check these files if you suspect one or more of the daemons have terminated. They are designed to hang indefinitely or for several minutes, depending in some cases on command-line options, to prevent problems caused by constant respawning of a failing daemon.

The following is an example of the log file created by the kerberos daemon:

```
# cat /var/adm/SPlogs/kerberos/kerberos.log
13-Oct-94 07:53:07 Kerberos started, PID=8012

13-Oct-94 07:53:07 kerberos: 2503-604 Cannot verify master key.
13-Oct-94 07:53:07 Kerberos will pause so as not to loop init
13-Oct-94 08:47:33 Kerberos started, PID=13243
#
```

The following is an example of the log file created by the kadmind daemon:

```
# cat /var/adm/SPlogs/kerberos/admin_server.syslog
13-Oct-94 08:42:16 Kerberos admin server started, PID=9831
13-Oct-94 08:42:16 kadmind: 2503-101 error: 2504-318 Could not verify master key

13-Oct-94 08:42:16 Shutting down admin server
13-Oct-94 08:47:33 Kerberos admin server started, PID=13759
#
```

The following is an example of the log file created by the kpropd daemon:

```
# cat /var/adm/SPlogs/kerberos/kpropd.log
13-Oct-94 09:27:29

***** kpropd started *****
13-Oct-94 09:27:29 Established socket
13-Oct-94 09:27:31 Connection from cwksta.xyz.abc.com, 129.49.100.41
13-Oct-94 09:27:31 kpropd: Connection from rcmd.cwksta@XYZ.ABC.COM
13-Oct-94 09:27:31 File received.
13-Oct-94 09:27:31 Temp file renamed to /tmp/sdump10560
13-Oct-94 09:27:32

***** kpropd started *****
13-Oct-94 09:27:32 Established socket
13-Oct-94 10:19:09 Connection from cwksta.xyz.abc.com, 129.49.100.41
13-Oct-94 10:19:09 kpropd: Connection from rcmd.cwksta@XYZ.ABC.COM
13-Oct-94 10:19:09 File received.
13-Oct-94 10:19:09 Temp file renamed to /var/kerberos/database/slavedb
14-Oct-94 07:36:41 Connection from cwksta.xyz.abc.com, 129.49.100.41
14-Oct-94 07:36:41 kpropd: Connection from rcmd.cwksta@XYZ.ABC.COM
14-Oct-94 07:36:41 File received.
14-Oct-94 07:36:41 Temp file renamed to /var/kerberos/database/slavedb
```

Chapter 7. Diagnosing SP Remote Command Problems

The SP remote commands depend heavily on Kerberos authentication and correct configuration of Kerberos within the SP system. The following is a subset of Kerberos problem determination related to the SP remote commands. Refer to Chapter 6, “Diagnosing Authentication Problems” on page 21 and the Kerberos commands in *IBM Parallel System Support Programs for AIX: Command and Technical Reference*.

1. Use the Kerberos command **klist** to check that the user has a ticket provided by the Kerberos **kinit** command.
2. If the user has a **.klogin** file in his home directory on the target host, check for the user's principal name in the file. The format should be:

   principal_name@domain
3. Use the Kerberos command **kdb_util** to check that the user is in the Kerberos database correctly.
4. Use the Kerberos command **ksrvutil list** to check that the source and target hosts have an entry in the Kerberos database in the form:

   rcmd.name@domain

   where *name* is the short hostname returned after issuing **hostname** command.
5. Run the following command on the source host to see any Kerberos messages. This will also tell you if Kerberos authentication is being used or if the SP remote command has passed the arguments to the AIX remote commands.

   `/usr/lpp/ssp/rcmd/bin/rsh` *hostname* `date`
6. If the SP remote command has passed the arguments to the AIX remote command, refer to the AIX **rsh** or **rcp** command for further problem determination steps regarding allowing user access.
7. If a message is returned stating the host is unknown, run the AIX command **inetimp**. This forces a reread of the **/etc/inetd.conf** file which associates the **kshd** daemon and the port number and updates the AIX internal database. If the **inetd.conf** file has been corrupted, the authenticated services may still be pointed to the AIX **rshd** daemon instead of the SP **kshd** daemon.
8. When using the SP **rcp** command, verify an **rcp** file or link is present in the **/usr/kerberos/bin** directory. If the link is present, it should point to **/usr/lpp/ssp/rcmd/bin/rcp**. A file should be present only if you have an existing version of Kerberos installed.
9. Check if the system administrator has run a **ksrvutil change** command. If that is the case, all current tickets are invalidated and **kinit** must be run again by each user to obtain a current ticket. The **ksrvutil change** command is not expected to be run on a frequent basis.
10. Check the **/etc/services** and the **/etc/inetd.conf** files for the “kshell” service. The “kshell” service in the **/etc/inetd.conf** file should point to **/usr/lpp/ssp/rcmd/etc/kshd**.

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Chapter 8. Diagnosing Switch Problems

The two switch types that are currently supported are the High Performance Switch and the SP Switch. Each switch type has it's own table. If your system or system partition shows signs of a switch failure, locate the symptom in the appropriate table and perform the recovery action or actions described. All of the actions described require that the user have root access on the specified node.

SP Switch Symptoms and Recovery

Table 3. SP Switch Symptoms and Recovery

Symptom	Recovery
Estart failure:	
System cannot find Estart command	See "Verify Software Installation" on page 34
Primary node is not reachable	See "Verify an SP Switch Node" on page 35
Estart command times out or fails	See "Diagnose SP Switch Estart Problems" on page 55
Expected # of nodes not initialized	See "Device and Link Problems" on page 47
Some links do not initialize	See "Device and Link Problems" on page 47
Node drops off of the switch (switch_responds is off for the node)	See "Verify an SP Switch Node" on page 35
Node fails to communicate over the switch, but its switch_responds is on (ping or CSS_test fail)	See "Verify an SP Switch Node" on page 35 and/or "Isolate Adapter and Switch Error" on page 50
Node crash	See "Node Crash" on page 46
Node fails to Eunfence	See "Eunfence Problems" on page 47
Other Ecommand failures	See "Ecommand Problems" on page 49
Oncoming Primary node is Efenced	See "Eunfence the Oncoming Primary" on page 46
Note: If the above recovery actions fail to resolve your problem, contact IBM Software Support.	

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High Performance Switch Symptom and Recovery Actions

Table 4. High Performance Switch Symptom and Recovery Actions

Symptom	Recovery
Estart failure:	
System cannot find Estart command	See “Verify Software Installation”
Primary node is not reachable	See “Verify a High Performance Switch Node” on page 36
Estart command times out	
Expected # of nodes not initialized	See “Diagnose High Performance Switch Estart Problems” on page 56
	See “Device and Link Problems” on page 47
Node drops off of the switch (switch_responds is off for the node)	See “Verify a High Performance Switch Node” on page 36
Node fails to communicate over the switch, but its switch_responds is on (ping or CSS_test fail)	See “Verify a High Performance Switch Node” on page 36 and/or “Isolate Adapter and Switch Error” on page 50
Node crash	See “Node Crash” on page 46
Node fails to Eunfence	See “Eunfence Problems” on page 47
Other Ecommand failures	See “Ecommand Problems” on page 49
Note: If the above recovery actions fail to resolve your problem, contact IBM Software Support.	

Verify Software Installation

Software installation and verification is done using the CSS_test script from either the SMIT panel or from the command line. If CSS_test is executed following a successful Estart, additional verification of the system will be done to determine if each node in the system or system partition is *ping*'able. If you are using system partitions, CSS_test runs in the active partition only. For more information on managing system partitions see the *IBM Parallel System Support for AIX: Administration Guide*.

To verify CSS installation from SMIT:

ENTER smit SP_verify

The Installation/Configuration menu appears.

SELECT ssp Communications Subsystem

PRESS Enter

Review the output created to determine the results.

To use CSS_test from the command line, You can optionally select the following options:

- -q to suppress messages.
- -l to designate an alternate log file. The default log file is /var/adm/SPlogs/css/CSS_test.log.

Review the log file to determine the results.

Additional items to consider while trying to run CSS_test are as follows:

- Each node should have access to the /usr/lpp/ssp/ directory.
- /etc/inittab on each node should contain an entry for rc.switch.

For complete information on CSS_test see IBM Parallel System Support Programs for AIX: Command and Technical Reference.

Verify an SP Switch Node

Use this procedure to verify that a single SP Switch node is operating correctly. If the node you are attempting to verify is the primary node start with step one. If it is a secondary node, start with step 2.

1. Determine which node is the primary by issuing the Eprimary command on the control workstation. For complete information on the Eprimary command, see the *IBM Parallel System Support for AIX: Commands and Technical Reference*. For our purposes, the following should suffice:

   ```
   Eprimary
   1 - primary
   2 - oncoming primary
   26 - primary backup
   26 - oncoming primary backup
   ```

   If the command returns an oncoming primary value of none, reexecute the Eprimary command specifying the node you would like to have as the primary node. Following the execution of the Eprimary command (to change the oncoming primary) an Estart is required to make the oncoming primary node the primary.

   If the command returns a primary value of none, an Estart is required to make the oncoming primary node the primary.

   The primary node on the SP Switch system can move to another node, if a primary node takeover is initiated by the backup. To determine if this has happened, look at the values of the primary and the oncoming primary backup. If they are the same value then a takeover has occurred.

2. Ensure that the node is accessible from the control workstation, this can be accomplished by rsh'ing the date command to the node as follows:

   ```
   /usr/lpp/ssp/rcmd/bin/rsh/<problem hostname> data
   TUE Oct 22 10:24:28 EDT 1997
   ```

   If the current date and time are not returned, refer to the section on Diagnosing SP remote command Problems.

3. Verify that the switch adapter (css0) is configured and is ready for operation on the node. This can be done by interrogating the adapter_config_status attribute in the switch_responds object of the SDR:

   ```
   SDRGetObjects switch_responds node_number==<problem node number>
   node_number switch_responds autojoin isolated adapter-config_status
         1           0             0        0          css_ready
   ```

   If the adapter_config_status object is anything other than css_ready, see “Configure and Diagnose Problems” on page 39.

Note: To obtain the value to use for problem node number, issue an SDR query of the node_number attribute of the Node object, as follows:

```
SDRGetObjects Node reliable_hostname==<problem hostname> node_number
node_number
    1
```

4. Verify that the fault_service_Worm_RTG_SP daemon is running on the node. This can be accomplished by rsh'ing a ps command to the problem node as follows:

   ```
   SDRGetObjects switch_responds node_number==<problem node number>
   node_number switch_responds autojoin isolated adapter_config_status
       1             0            0        0            css_ready
   ```

   If the fault_service_Worm_RTG_SP daemon is running, SP Switch node verification is complete.

   If the fault_service_Worm_RTG_SP daemon is not running, see “Isolate Adapter and Switch Error” on page 50. The possible reasons why the fault_service_Worm_RT_SP deamon is not running are as follows:

   - The daemon exited due to an abnormal error condition.
   - A SIGTERM, SIGBUS or SIGDANGER signal was processed by the daemon.

Recover the Node

You can restart the fault_service_Worm_RTG_SP daemon on the node by issuing::

```
/usr/lpp/ssp/css/rs.switch "adapter/mca/tb3"
```

Following the rc.switch, do step 4 again of SP Switch Node Verification to determine, if the daemon is still running or has died.

At this point you should be able to Eunfence the node by issuing:

```
Eunfence <problem_node_number>
```

All nodes successfully unfenced.

If you can't resolve the problem, contact IBM Software Support. You should also attempt to gather any log file associated with this failure. See “Collect Information for IBM Software Support” on page 45.

Verify a High Performance Switch Node

Use this procedure to verify that a single High Performance Switch node is operating correctly. If the node you are attempting to verify is the primary node, start with step one. If it is a secondary node, start with step 2.

1. Determine which node is the primary by issuing the Eprimary command on the control workstation. For complete information on the Eprimary command, see the IBM Parallel System Support for AIX: Commands and Technical Reference. For our purposes the following should suffice:

   ```
   Eprimary
   ```

   The value returned (1) means that node 1 is the primary node.

   If the primary node is not available (ex. powered down, rebooted), Eprimary should be run to designate a new primary (followed by an Estart to start the

switch). Eprimary should never be used to designate a new primary, if the current primary node is operational. Eprimary can always be used to query the designated primary node. On a primary node failure, the switch and switch_responds System Monitor display will be inconsistent, until Eprimary and Estart are run.

2. Ensure that the node is accessible from the control workstation, this can be accomplished by rsh'ing the date command to the node as follows:

   ```
   /usr/lpp/ssp/rcmd/bin/rsh <problem hostname> data
   Tue Oct 22 10:24:28 EDT 1997
   ```

   If the current date and time are not returned, refer to the section on Diagnosing SP remote command Problems.

3. Verify that the switch adapter (css0) is configured and is ready for operation on the node. This can be done by interrogating the adapter_config_status attribute in the switch_responds object of the SDR:

   ```
   SDRGetObjects switch_responds node_number==<problem node number>
   node_number switch_responds autojoin isolated adapter_config_status
       1             0             0        0         css_ready
   ```

   If the adapter_config_status object is anything other than css_ready, see “Configure and Diagnose Problems” on page 39.

   To obtain the value to use for problem node number, issue an SDR query of the node_number attribute of the Node object, as follows:

   ```
   SDRGetObjects Node reliable_hostname==<problem hostname> node_number
   node_number
      1
   ```

4. Verify that the fault_service_Worm_RTG daemon is running on the node by rsh'ing a ps command to the problem node as follows:

   If your /.rhost file is setup:

   ```
   rsh problem_hostname ps -e | grep fault_service_Worm_RTG
   18422   -0:08 fault_service_Worm_RTG
   ```

   If the fault_service_Worm_RTG daemon is running, High Performance Switch node verification is complete.

   If the fault_service_Worm_RTG daemon is not running, see “Isolate Adapter and Switch Error” on page 50. The possible reasons why ythe fault_service_Worm_RTG daemon is not running are as follows:

   - The daemon exited due to an abnormal error condition.
   - A SIGTERM, SIGBUS or SIGDANGER signal was processed by the daemon.

Recover the Node

You can restart the fault_service_Worm_RTG daemon on the node by issuing the following:

```
/usr/lpp/ssp/css/rs.switch
"adapter/mca/tb2"
```

Following the rc.switch redo step 4 of High Performance Switch Node Verification to determine, if the daemon is still running or has died.

At this point a Estart is required to get the node back onto the switch:

```
Estart
```

If you can't resolve the problem, your next course of action is to contact IBM Software Support. Additionally you should attempt to gather any log file associated with this failure. See “Collect Information for IBM Software Support” on page 45.

Verify Switch Topology Configuration

The switch topology file is used to define the hardware configuration to the css support software. It should reflect the number of switches and nodes installed, as well as define how they are connected. The topology file can reside in two places, in the SDR or as expected.top in the /etc/SP directory of the primary node. The configuration in the SDR is what is commonly used. The configuration in /etc/SP/expected.top is generally used for debug purposes only. If /etc/SP/expected.top exist on the primary node, it overrides the configuration in the SDR!

To verify the topology in the SDR is correct, first read it out of the SDR using the Etopology command:

```
Etopology -read <file name>
```

The Etopology command reads the switch topology from the SDR and places it in to the specified file. For more information on the Etopology command, see the *IBM Parallel System Support Programs for AIX: Commands and Technical Reference*. Once the file is extracted, verify that the switch topology is an accurate representation of the installed hardware. If changes to the switch topology file are required, remember to place them back into the SDR using Etopology.

Verify the System Data Repository (SDR)

To verify that the SDR is installed and operating correctly, you can run SDR_test on the control workstation. It can be run either through SMIT or from the command line.

To verify the SDR from SMIT:

ENTER smit SP_verify

The Installation/Configuration menu appears.

SELECT ssp System Data Repository

PERSS Enter

Review the output created to determine the results.

To use SDR_test from the command line, issue:

```
/usr/lpp/ssp/bin/SDR_test
```

Review the output created to determine the results.

Next log into the failing node and issue the SDRGetObjects command against the switch_responds object:

```
SDRGetObjects switch_responds
```

Examine the output that is returned. If the switch responds bits are returned, this indicates that SDR is operating. You can also determine which nodes are operational on the switch by examining the value returned. A value of 1 indicates the node is operational; a value of 0 indicates that the nodes are not operational.

Configure and Diagnose Problems

The following table is based on the possible values of the adapter_config_status attribute of the switch_responds object of the SDR. Use the following command to determine its value:

```
SDRGetObjects switch_responds
```

Use the value of the adapter_config_status attribute for the node in question, to index into the table.

Note: In the adapter_config_status table that follows uses the phrase "adapter configuration command" this refers to the High Performance Switch or SP Switch adapter configuration method. Use the following syntax to invoke it:

- For the High Performance Switch, enter

  ```
  /usr/lpp/ssp/css/cfgtb2 -v -l css0 > <output_file_name>
  ```

- For the SP Switch, enter:

  ```
  /usr/lpp/ssp/css/cfgtb3 -v -l css0 > <output_file_name>
  ```

Table 5. adapter_config_status	
adapter_config_status	**Explanation and Recovery action**
odm_fail genmajor_fail genminor_fail getslot_fail build_dds_fail	An ODM failure has occurred while configuring the CSS adapter. Re-run the adapter configuration command. If the problem persists contact, IBM Software Support and supply them with the command output.
lname_error	The device logical name specified on the CSS adapter configuration command was invalid. Re-run the adapter configuration. If the prob- lem persists, contact IBM Software Support and supply them with the command output.
undefine_system_fail define_system_fail xilinx_system_fail	The System Standard C Library Subroutine failed during CSS adapter configuration. Re-run the adapter configuration. If the problem persists, contact IBM Software Support and supply them with the command output.
undefine_fail define_fail	The current instance of the CSS logical device could not be redefined. Re-run the adapter configuration command. If the problem persists, contact IBM Software Support and supply them with the command output.
chkslot_fail	Verify the CSS adapter is properly seated, then re-run the adapter configuration command. If the problem persists, contact IBM Software Support and supply them with the command output.
busresolve_fail	There are insufficient bus resources to configure the CSS adapter. Contact IBM Software Support.
xilinx_load_fail dd_load_fail fs_load_fail	See “Verify Software Installation” on page 34. If software installation verification is successful and the problem persists contact IBM Software Support.
make_special_fail	The CSS device special file could not be created during adapter configuration. Re-run adapter configuration. If the problem persists, contact IBM Software Support and supply them with the command output.
dd_config_fail fs_init_fail	An internal device driver error occurred during CSS adapter configuration. Use the section “Collect Information for IBM Software Support” on page 45 to collect pertinent information and contact IBM Software Support.
diag_fail	See “Adapter Diagnostic Failures” on page 40.

Adapter Diagnostic Failures

The recovery actions to take for adapter diagnostic failure can, in most cases, be determined by examining the Service Request Number (SRN) posted in the error log entry for the diagnostic failure. To get this information, log into the failing node and issue the errpt command to view detailed information in the failing entry. The command would be something like:

```
errpt -a | grep "Switch adapter failed POST diagnostics"
```

Use the SRN table that follows to determine the recovery action:

Note: x's should be evaluated as do not cares.

SRN	Recovery action
1xx	See “Verify Software Installation” on page 34. If Software Installation Verification is successful and the problem persists contact IBM Software Support.
28x	See “Verify External Clock and Cable” on page 41. If External Clock and Cable Verification is successful and the problem persists contact IBM Software Support.
Axx	See “Verify External Clock and Cable” on page 41. If External Clock and Cable Verification is successful and the problem persists contact IBM Software Support.
All other SRNs	contact IBM Hardware Service and arrange to have the adapter and or cable replaced.

The following is additional information on how to run css adapter diagnostics on-line:

To run the complete set of css adapter diagnostics on a particular node, diagnostics require exclusive use of the of the css adapter. You may have to kill processes that currently have the css device driver open. This would include the fault_service_Worm_RTG_SP or the fault_service_Worm_RTG and any other processes that are using it, such as "switch clock reader applications".

To run the same sequence of adapter tests that ran at Power On Self Test (POST) time, enter the following:

```
diag -c -d css0
```

This command runs the css adapter diagnostics in unattended mode, directing the written results to standard out.

When cable or adapter problems are suspected and the POST diagnostics run successfully it maybe wise to run the adapter and adapter cable wrap test found in advanced diagnostics, to do this enter the following:

```
diag -A -d css0
```

Note: You will need both the card and cable wrap plugs to complete these tests.

Verify External Clock and Cable

The following procedures should not be run on nodes that are operational on the switch. The utilities used for these verifications can't coexist with normal switch operations on the node.

If clocking problems exist on all nodes in a rack. See “Rack or System Clocking Problems” on page 44. Otherwise start by running the appropriate clock verification procedure for the problem node(s).

Verify SP Switch External Clock

Use the following steps to determine if the external clock is operational at the node:

1. Login to the node in question.
2. Execute the following command:

```
/usr/lpp/ssp/css/diags/read_tbic -s
TBIC status register    :78000000
```

Note: Bits are numbered from left to right, starting at 0.

Look at bits 3 and 4:

- if bits 3 and 4 are on "11" the external clock is operational at the node.
- If either bit 3 or 4 is off, the external clock is not operational at the node. To restore the external clock at the node see “Restore SP Switch External Clock” on page 43.

Verify High Performance Switch External Clock

Use the following steps to determine if the external clock is operational at the node:

1. Login to the node in question.
2. Execute the following command:

```
/usr/lpp/ssp/css/read_regs
Kernel extension=/usr/lpp/ssp/css/fault_service is loaded
POS_REG[0]=7C
POS_REG[1]=8F
POS_REG[2]=C7
POS_REG[3]=0A
POS_REG[4]=0E
POS_REG[5]=BC
POS_REG[6]=00
POS_REG[7]=05
Clock signal present
 - GORE clock selected
MSMU registers:
  XMIT_FREE_SPACE     01F807
  RECV_FULL_SPACE     00000000
  INTERRUPT_PENDING   00000008
  INTERRUPT_MASK      00026800
  MSMU_CONTROL        179E1801
  MSMU_STATUS         00000800
  FAULT_ADDR          FF801008
  MSMU_DIAG           000000FF
```

Note: POS bits are numbered from left to right starting at 0. Additionally the format of the above output may differ from what is shown here. This is dependent on the level of the css code installed on the system. However the information displayed will still have the same content.

- Examine bit 7 of POS register 5 and verify that the bit is off "0".
- Examine bit 0 of POS register 3.1 and verify that the bit is on "1":

If both conditions are correct, the external clock is operational on the node.

If both conditions are incorrect, the external clock is not operational. To restore the external clock at the node see “Restore High Performance Switch External Clock” on page 43.

Restore SP Switch External Clock

Try the following steps to restore the external clock at the node:

1. rc.switch the node, this is accomplished using the following :

   ```
   /usr/lpp/ssp/css/rc.switch
   "adapter/mca/tb3
   ```

2. Determine if the clock is present using “Verify SP Switch External Clock” on page 41.
3. If the clock is still not present, try to Eclock the system. Elcock will affect all switch boards in the system and requires exclusive use of the switch (that is, all system partitions). For more information on the Eclock command see the *IBM Parallel System Support for AIX: Command and Technical Reference*.

   To Eclock the system use the following command:

   ```
   Eclock -d
   ```

4. Determine if the clock is present by referring to “Verify SP Switch External Clock” on page 41.
5. If the clock is still not present, you have two courses of action. The first is to follow the instructions presented in “Verify Cable,” if you feel qualified. The second is to contact IBM Hardware Service and have them do the Cable Verification.

Restore High Performance Switch External Clock

Try the steps in the following list to restore the external clock at the node:

1. Execute css_restart_node on the problem node, as follows:

   ```
   /usr/lpp/ssp/css/css_restart_node
   ```

2. Determine if the clock is present by referring to “Verify High Performance Switch External Clock” on page 42.
3. If the clock is still not present, try to Eclock the system. Eclock will effect all switch boards in the system and requires exclusive use of the switch. For more information on the Eclock command, see the *IBM Sytem Support for AIX: Command and Technical Reference*. To Eclock the system use the following command:

   ```
   Eclock -d
   ```

4. Determine if the clock is present by referring to “Verify High Performance Switch External Clock” on page 42.
5. If the clock is still not present, you have two courses of action. The first is to follow the instructions in “Verify Cable,” if you feel qualified. The second choice is to contact IBM Hardware Service and have them do the Cable Verification.

Verify Cable

This section covers node to switch and switch to switch cables, for both the High Performance Switch and the SP Switch. For node to switch cables use “Verify Node to Switch Cable” on page 44, for switch to switch use “Verify Switch to Switch Cable” on page 44.

Verify Node to Switch Cable

The first step is to visually inspect the cable in question. This should be done as follows:

1. Remove the cable from the back of the node and examine the connectors (cable and back of the adapter) for bent pins or other visible damage. If every thing looks okay, reconnect the cable to the adapter, if it doesn't contact IBM Hardware Service and have them replace or repair the damaged components.
2. Remove the cable from the back of the switch and examine the connectors (cable and switch bulkhead jack) for bent pins or other visible damage. If every thing looks okay, reconnect the cable to the switch bulkhead jack, if it doesn't contact IBM Hardware Service and have them replace or repair the damaged components.
3. If every thing visually checks out, run Advanced Diagnostics on the suspect adapter and cable. The procedure for doing this is outlined in “Adapter Diagnostic Failures” on page 40. Follow the on-line instructions, if the diagnostics call out a failure contact IBM Hardware Service and have the failing component(s) replaced. If diagnostics pass and the problem persists contact IBM Software Support.

Verify Switch to Switch Cable

The first step is to visually inspect the cable in question. This should be done as follows:

1. Remove the cable from the back of the switch and examine the connectors (cable and switch bulkhead jack) for bent pins or other visible damage. If every thing looks okay, reconnect the cable to the switch bulkhead jack, if it doesn't contact IBM Hardware Service and have them replace or repair the damaged components.
2. Repeat step 1 for the other end of the switch to switch cable
3. If every thing visually checks out, contact IBM Hardware Service and have them replace the cable. If the problem persists contact IBM Software Support.

Rack or System Clocking Problems

The following table list the possible clock loss problems on single racks and systems along with there recovery actions:

Problem	Recovery Action
All nodes in a single rack will not clock	Cause: Switch is powered off Action: repower the switch, run Eclock -d, then Estart. Cause: The switch is not Eclocked Action: run Eclock -d, then Estart. Cause: The clock topology file used doesn't match physical system topology or the switch board is bad. Action: Contact IBM Hardware Service
Some racks in the system will not clock	Cause: Switches are powered off Action: repower the switches, run Eclock -d, then Estart. Cause: The system is not Eclocked Action: run Eclock -d, then Estart. Cause: The clock topology file used doesn't match physical system topology or the master clock switch is bad. Action: Contact IBM Hardware Service

Collect Information for IBM Software Support

The css.snap script collects log files created by switch support code (device driver, worm, fault-service, diags) into a single package. Under normal circumstances, it collects the following files:

- cable_miswire
- cable_miswire.old
- core (fault service daemon dump file)
- css.snap.log
- css_dump.out
- daemon.stderr
- daemon.stdout
- dtbx.trace
- dtbx.failed.trace
- errpt.out (most recent errpt -a' and errpt' entries)
- flt
- fs_daemon_print.file
- netstat.out (current netstat -I css0' and netstat -m')
- out.top
- rc.switch.log
- regs.out
- router.log
- scan_out.log
- scan_save.log
- tb_dump.out

- vdidl.out
- worm.trace

The files ending in **.out** are produced by running the appropriate command to dump internal (in memory) trace info or dump data to a file. The completed output file will be found in:

```
/var/adm/SPlogs/css/css.snap.[date-time].tar.Z
```

css.snap avoids flooding /var by following the following rules:

1. If less than 10% of /var is free, css.snap exits.
2. If the css portion of /var is more than 30% of the total space in /var, css.snap erases old snap files until css's share sinks below 30%. If it's successful, the snap proceeds. If not, it exits.

The css.snap command is called automatically from the fault-service daemon when certain serious errors are detected. It can also be issued from the command line when a switch or adapter related problem is indicated.

```
/usr/lpp/ssp/css/css.snap
```

Caution: css.snap uses a number of undocumented utilities to collect information. Some of these, like read_regs and the tbXdump routines, can be destructive when used on a running system. After using css.snap to collect diagnostic information, it's best to run /usr/lpp/ssp/css/rc.switch in order to reset/reload the switch adapter and eliminate the residual effects of these utilities.

Node Crash

A node crash is generally identified by the LED display on the node flashing 8's. The recovery action for this event is to save the dump that was created (we wouldn't want to lose it, if the node crashes again). This procedure for doing this can be found in the IBM Parallel System Support for AIX: Administration Guide in the creating a dump section. Once the dump is saved, Contact IBM Software Support and supply them with the tar image in the /tmp/ibmsupt directory.

Eunfence the Oncoming Primary

If the oncoming primary node becomes fenced from the switch use the following procedure to Eunfence it prior to Estarting:

- If the switch is up and operational with another primary node in control of the switch, then issue **Eunfence** on the oncoming primary and issue **Estart** to make it the active primary node.

  ```
  Eunfence 1
  All node(s) successfully unfenced.
  Estart
  Switch initialization started on k60n01
  Initialized 14 node(s).
  Switch initialization completed.
  ```

- If the switch is not operational and **Estart** is failing because the oncoming primary's switch port is fenced. You must first change the oncoming primary to another node on the switch and **Estart**. Once the switch is operational you can then **Eunfence** the old oncoming primary node. If you also want to make it the

active primary then issue a **Eprimary** command to make it the oncoming primary node and **Estart** the switch once again.

```
Eprimary 3
Eprimary: Defaulting oncoming primary backup node to k60n14
Estart
Switch initialization started on k60n03
Initialized 13 node(s)
Eunfence 1
All node(s) successfully unfenced.
Eprimary 1
Eprimary:  Defaulting oncoming primary backup node to k60n14
Estart
Switch initialization started on k60n01
Initialized 14 node(s)
Switch initialization completed.
```

Eunfence Problems

You can isolate and correct most **Eunfence** problems by referring to "Ecommand Problems" on page 49. The following list provides some additional reasons for a particular node to fail to **Eunfence**:

- The node is no longer reachable through the switch network. The section "Device and Link Problems" can be useful in isolating and correcting this problem.
- If an SP Switch node fails to **Eunfence** because the switch topology could not be distributed. See the section Diagnosing Kerberos Problems.
- The node fails to respond when attempting to **Eunfence** it. The section "Verify an SP Switch Node" on page 35 or "Verify a High Performance Switch Node" on page 36 maybe useful in isolating and correcting the problem.
- If any of the above procedures fail to resolve the problem, the css logs from both the primary node and the node being unfenced should be gathered. This can be accomplished by logging into those nodes and using the procedure outlined in "Collect Information for IBM Software Support" on page 45.

Note: You cannot **Eunfence** a node from a switch that is not Estarted!

Device and Link Problems

When evaluating device and link problems on the system, first examine the out.top file in the **/var/adm/SPlogs/css** directory of the primary node. This file looks like a switch topology file, except for the additional comments on lines where either the device or link is not operational. These additional comments are appended to the file by the fault_service daemon to reflect the current device and link status of the system. If there are no comments on any of the lines or the only comments are for wrap plug where they actually exist, you should consider all devices and links to be operational. If this is not the case, however, the following information should help to resolve the problems:

The following is an example of a failing entry in the out.top file:

```
s 14 2  tb0 9 0 E01-S17-BH-J32 to E01-N10   -4 R: device has been removed
from network-faulty (link has been removed from network or mis-wired-faulty)
```

The previous line can be translated as follows:

- switch chip 14, port 2 is connected to switch node number 9.
- The switch is located in frame E01 slot 17.
- It's bulkhead connection to the node is jack 32.
- The node is also in frame E01 and it's node number is 10.
- The -4R refers to the device status of the right side device (tb0 9), which has the worst device status of the two devices listed. The device status of the node is "device has been removed from the network - faulty".
- The link status is "(link has been removed from the network or miswired - faulty)".

The possible device and link status are listed in the following table with possible recovery actions:

Table 6. Device status

#	Text	Explanation and Recovery Action
-4	device has been removed from network - faulty	The device has been removed from the switch network, because of a fault on the device. If the device in question is a node, see either “Verify an SP Switch Node” on page 35 or “Verify a High Performance Switch Node” on page 36. Otherwise contact IBM Hardware Service.
-5	device has been removed from network by system administrator	The device was placed off-line by the Systems Administrator (Efence). Eunfence the device.
-6	device has been removed from network - no AUTOJOIN	The device was removed and isolated from the switch network. The possible causes are: the node was Efence without AUTOJOIN, the node was rebooted or powered off, or the node faulted. First attempt to Eunfence the device, if the node fails to rejoin the switch network, see “Isolate Adapter and Switch Error” on page 50. If the problem persists contact IBM Software Support.
-7	device has been removed from network for not responding	The device was removed from the switch network. An attempt was made to contact the device, but the device did not respond. If the device in question is a node, see either “Verify an SP Switch Node” on page 35 or “Verify a High Performance Switch Node” on page 36. Otherwise contact IBM Software Support.
-8	device has been removed from network because of a miswire	The device is not cabled properly. There are 2 possible causes for this condition. The first is that the switch network is miswired, the other is that the frame supervisor s TTY is not cabled properly. First view the /var/adm/SPlogs/css/ cable_miswire file. Verify and/or correct all links listed in the file. Then issue Eclock -d and re-run Estart. If the problem persists contact IBM Hardware Service.
-9	Destination not reachable	The device was not reachable through the switch network. This is generally due to other errors in the switch network fabric. Investigate and correct the root problem, then rc.switch the primary node and re-run Estart.

Table 7. Link status

#	Text	Explanation and Recovery Action
-2	wrap plug is installed	This link is connected to a wrap plug. This is not normally a problem.
-4	link has been removed from network or mis-wired - faulty	The link is not operational and was removed from the network. The possible causes are: the link is mis-wired or the link has faulted. First check the /var/adm/SPlogs/css directory for the existence of a cable_miswire file. If the file exists verify and/or correct all links listed in the file. Then execute Eclock -d and re-run Estart. If the cable_miswire file doesn't exist, interrogate the /var/adm/SPlogs/css/flt file for entries relating to this link. If entries are found verify that the cable is seated at both ends, then rc.switch the primary node and re-run Estart. If the problem persists contact IBM Software Support.
-6	link has been removed from network - no AUTOJOIN	The device was removed and isolated from the switch network. The possible causes are: the node was Efence without AUTOJOIN, the node was rebooted or powered off, or the node faulted. First attempt to Eunfence the device, if the node fails to rejoin the switch network, see “Isolate Adapter and Switch Error” on page 50. If the problem persists contact IBM Software Support.
-7	link has been removed from network - fenced	The device was placed off-line by the Systems Administrator (Efence). Eunfence the associated node.
-8	link has been removed from network - probable miswire	The link is not cabled properly. View the /var/adm/SPlogs/ css/cable_miswire file. Verify and/or correct all links listed in the file, then rc.switch the primary node and re-run Estart.
-9	link has been removed from network - not connected	The link can not be reached by the primary node, so initialization of the link is not possible. This is generally cause by other problems in the switch network , such as a switch chip being disabled. Investigate and correct the root problem, then rc.switch the primary node and re-run Estart.

Note: If the recovery actions previously listed fail to resolve your problem, contact IBM Software Support.

Ecommand Problems

The error isolation procedure for any Ecommand (Eclock, Eannotator, etc.) that fail is as follows:

1. View the error output returned from the command, making note of the error message number and text returned.
2. Cross reference the message number in the Messages section of this book and execute the recommended recovery action.
3. If the recovery actions were taken and the problem persists, contact IBM Software Support.

Note: Many of the Ecommands are global in nature (communicating with all nodes in the system or partition), these commands can sometime fail because they are unable to communicate with every node. If you suspect this type of failure see the section on Diagnosing Kerberos Problems.

Note: Many of the Ecommands update and/or access the SDR to perform their functions. These commands sometimes fail because they cannot access the SDR or the SDR is set up incorrectly. If you suspect this type of failure, see "Verify the System Data Repository (SDR)" on page 38.

Isolate Adapter and Switch Error

To isolate an adapter or switch error for either the SP Switch or the High Performance Switch, first view the AIX error log. For switch related errors, login to the primary node, for adapter problems login to suspect node. Once you are logged in, enter the following:

```
errpt | more
ERROR_ID TIMESTAMP    T CL Res Name  ERROR_Description
34FFBE83 0604140393T  T H  Worm      Switch Fault-detected by switch chip
C3189234 0604135793   T H  Worm      Switch Fault-not isolated
```

The Resource Name (Res Name) in the error log should give you an indication of how the failure was detected.

Table 8. Resource name indication

Resource name	Indication
Worm	The information was extracted from the switch and/or adapter hardware
css	Incorrect status was detected by the css device driver
css0	The css adapter failed diagnostics.

The following tables provide additional information specific to each switch type:

Table 9 (Page 1 of 4). Possible causes for High Performance Switch Failures

Error Description	Analysis
Switch Adapter failed POST diagnostics	**Explanation:** The switch adapter failed Power-On-Self-Test diagnostics **Cause:** Bad switch adapter or missing external clock source **Action:** See "Adapter Diagnostic Failures" on page 40.
Switch Fault - Bad Packet Checksum	**Explanation:** The local switch adapter detected a corrupt packet **Cause:** Bad local or remote switch adapter/cable **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Software Support.

Table 9 (Page 2 of 4). Possible causes for High Performance Switch Failures

Error Description	Analysis
Switch Daemon Terminated	**Explanation:** The fault_service_Worm_RTG daemon was terminated. **Cause:** rc.switch was run on the node **Action:** No action required. **Cause:** A SIGTERM was processed **Action:** rc.switch the node, then Estart. **Cause:** Bad switch adapter or missing external clock source **Action:** See "Adapter Diagnostic Failures" on page 40. **Cause:** Bad microchannel slot **Action:** Run complete diagnostics on the node. If diagnostics fail to isolate the problem contact IBM Hardware Service
Switch Fault - not isolated	**Explanation:** The switch was started at the users request **Cause:** A node on the switch was reset or Estart was issued **Action:** No action required
Switch Fault - detected by switch chip	**Explanation:** A switch chip detected a fault condition **Cause:** Bad switch chip or cable **Action:** Contact IBM Hardware Service
Switch Fault - detected by adapter	**Explanation:** A adapter in the switch network caused a switch fault **Cause:** A node on the switch was powered off or rebooted **Action:** Once the node is available again, Eunfence the node **Cause:** Bad switch adapter or cable **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
Switch fault isolation failed - retries exhausted	**Explanation:** Switch recovery failed **Cause:** processor route table distribution failed **Action:** Contact IBM Software Support. **Cause:** Bad switch adapter or cable **Action:** See "Device and Link Problems" on page 47. If the problem persists contact IBM Hardware Service.
Switch Adapter - Unexpected Interrupt	**Explanation:** Unexpected interrupt condition on local adapter **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
Switch adapter failed on-line diagnostics	**Explanation:** On-line switch adapter diagnostics failure **Cause:** Bad switch adapter or missing external clock source **Action:** See "Adapter Diagnostic Failures" on page 40.
Switch Faulty - switch component	**Explanation:** A bad switch component was found in the network **Cause:** Bad switch data cable or bad switch chip **Action:** View /var/adm/SPlogs/css/daemon.stdout and /var/adm/SPlogs/css/out.top for additional information. Use "Verify Cable" on page 43 and "Device and Link Problems" on page 47. If the problem persists contact IBM Hardware Service

Table 9 (Page 3 of 4). Possible causes for High Performance Switch Failures	
Error Description	**Analysis**
Switch Adapter - Bus error	**Explanation:** Bus error or channel check condition was detected on the local switch adapter **Cause:** Bad switch adapter or missing external clock source **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service. **Cause:** Bad microchannel slot **Action:** Run complete diagnostics on the node. If diagnostics fail to isolate the problem contact IBM Hardware Service.
Switch - cable mis-wired	**Explanation:** A switch cable miswire was detected **Cause:** Switch network cabling does not match the switch topology file **Action:** View the /var/adm/SPlogs/css/cable_miswire file to determine which cables are in question. Then check and reconnect the associated cables. If the problem persists contact IBM Hardware Service.
Switch Adapter - Error detected by adapter	**Explanation:** The local switch adapter detected an error. **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
Switch Adapter - PIO Error During Interrupt Handling	**Explanation:** An exception occurred accessing the switch adapter during interrupt handling **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
Switch NI - Nodes queued for fencing	**Explanation:** Node(s) were queued to be fenced by the operator **Cause:** Efence was issued by the operator.. **Action:** None, the message is informational.
Switch NI - Nodes queued for unfencing	**Explanation:** Node(s) were queued to be unfenced by the operator **Cause:** Eunfence was issued by operator. **Action:** None, the message is informational.
Switch NI - Node not on switch	**Explanation:** The nodes queued for for fencing are not currently operational on the switch network. **Cause:** The nodes specified in the Efence command are not currently operational on the switch network. **Action:** None, the message is informational.
Switch NI - Node not a fenced node	**Explanation:** The node(s) queued for unfencing are not fenced. **Cause:** The node(s) specified on the unfence command are already unfenced. **Action:** None, the message is informational.
Switch NI - Node not found in topology	**Explanation:** The node(s) queued for fencing is not found in the topology file. Cause: A invalid node was specified on the Efence command. **Action:** None, the message is informational.

Table 9 (Page 4 of 4). Possible causes for High Performance Switch Failures	
Error Description	**Analysis**
Switch NI - Node already fenced	**Explanation:** The specified node is already fenced.The node specified on the Efence command is already fenced. **Cause:** The node specified on the Efence command is already fenced **Action:** None, the message is informational.
Switch NI - Reading TRCV SR Failed	**Explanation:** An error occurred unfencing the specified node. **Cause:** A software error occurred during the unfence operation of the specified node. **Action:** Contact IBM Software Support.
Switch NI - Reading TIME SR Failed	**Explanation:** An error occurred unfencing the specified node. **Cause:** A software error occurred during the unfence operation of the specified node. **Action:** Contact IBM Software Support.
Switch NI - Link Tuning Failed	**Explanation:** An error occurred tuning the node link during an unfence operation. **Cause:** Bad switch adapter or cable. **Action:** See “Verify Node to Switch Cable” on page 44
Switch NI - Device initialization Failed	**Explanation:** The specified switch adapter failed to initialize during an unfence operation. **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
Switch NI - Failed to distribute Routes	**Explanation:** An error occurred attempting to distribute switch route information during a unfence operation. **Cause:** A software error was detected, while attempting to distribute **Action:** Contact IBM Software Support

Table 10 (Page 1 of 3). Possible causes of SP Switch failures	
Error Description	**Analysis**
A Parity Error on Data was detected	**Explanation:** A switch chip detected bad parity on a data packet **Cause:** Bad switch, switch adapter or switch cable **Action:** See “Device and Link Problems” on page 47. If this procedure fails to isolate the problem, contact IBM Hardware Service.
Switch adapter transient error	**Explanation:** The switch adapter hardware detected a an error that may be software correctable **Cause:** transient error Action: If the node is still running or operational (the fault_service_Worm_RTG_SP is running) no action is required. Cause: Bad switch, switch adapter or switch cable Action: See “Device and Link Problems” on page 47. If this procedure fails to isolate the problem, contact IBM Hardware Service.

Table 10 (Page 2 of 3). Possible causes of SP Switch failures	
Error Description	**Analysis**
An Undefined Control Character was detected	**Explanation:** The switch chip received a undefined control character Cause: Bad switch, switch adapter or switch cable **Action:** See "Device and Link Problems" on page 47. If this procedure fails to isolate the problem, contact IBM Hardware Service.
An unexpected interrupt occurred	**Explanation:** Unexpected interrupt condition on local adapter **Cause:** Switch failure **Action:** The /var/adm/SPlog/css/fs_daemon_print.file should contain related information on the failure **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
An EDC error was detected	**Explanation:** A switch chip reported an EDC error **Cause:** Bad switch, switch adapter or switch cable **Action:** See "Device and Link Problems" on page 47. If this procedure fails to isolate the problem, contact IBM Hardware Service.
A Recv Port Link Synch Failure occurred	**Explanation:** A switch chip has lost clock synchronization on one of its send or receive ports
A Sender Port Link Synch Failure occurred	Cause: If the port is connected to a node, the node may have been powered off or rebooted. **Action:** When the node is operational Eunfence the node **Cause:** A bad switch cable **Action:** See "Verify Cable" on page 43.
Switch Daemon Process Terminated	**Explanation:** The fault_service_Worm_RTG_SP daemon was terminated. **Cause:** Bad switch adapter or missing external clock source **Action:** See "Adapter Diagnostic Failures" on page 40. **Cause:** Bad microchannel slot **Action:** Run complete diagnostics on the node. If diagnostics fail to isolate the problem contact IBM Hardware Service
Switch Adapter failed POST diagnostics	**Explanation:** The switch adapter failed Power-On-Self-Test diagnostics **Cause:** Bad switch adapter or missing external clock source **Action:** See "Adapter Diagnostic Failures" on page 40.
Switch link outage	**Explanation:** The switch adapter to switch chip link is not operational **Cause:** The node is Efenced **Action:** Eunfence the node **Cause:** Missing external clock source **Action:** See "Verify SP Switch External Clock" on page 41 and "Restore SP Switch External Clock" on page 43. If the problem persists, contact IBM Hardware Service.
Bad packet received	**Explanation:** The switch adapter received an unexpected end-of-packet or a packet failed Cyclic Redundancy Checking (CRC) **Cause:** Error in the switch network **Action:** No action required unless they are frequent. If they are frequent contact IBM Hardware Service.

Table 10 (Page 3 of 3). Possible causes of SP Switch failures	
Error Description	**Analysis**
Error threshold exceeded	**Explanation:** The switch adapter was reset because of excessive transient errors **Cause:** Bad switch, switch adapter or switch cable **Action:** See “Device and Link Problems” on page 47. If this procedure fails to isolate the problem, contact IBM Hardware Service.
Off-line Request has been received	**Explanation:** This node was the target of an Efence operation. Either initiated by the user or as a recovery action. **Cause:** Node was Efenced from the switch network by the user **Action:** Eunfence the node

Diagnose SP Switch Estart Problems

Refer to the following list of steps to diagnose Estart failures:

1. Login to the primary node.
2. View the bottom of the /var/adm/SPlogs/css/fs_daemon_print.file.
3. Use the failure listed to index the following table:

Table 11. SP Switch Estart Problems

Message	Analysis
Error in buildDeviceDatabase()	**Explanation:** Unable to build the device database **Cause:** Missing or corrupt Topology file **Action:** See "Verify Switch Topology Configuration" on page 38. **Cause:** malloc failures **Action:** Contact IBM Software Support
Error in TBSswitchInit()	**Explanation:** Unable to initialize the switch network **Cause:** Switch initialization failed **Action:** See "SP Switch Worm Errors" on page 58.
Error in writeDeviceDatabase()Error in writeDeviceDatabase()	**Explanation:** Unable to write /var/adm/SPlogs/css/out.top **Cause:** Missing or corrupt Topology file **Action**: See "Verify Switch Topology Configuration" on page 38. **Cause**: /var is not large enough to accommodate the new out.top file **Action**: Increase the size of /var
No valid backup - SDR current Backup being changed to none	**Explanation:** Informational message **Cause:** No node available as a backup **Action:** No action required
Can't access SDR - SDR current Backup not changed	**Explanation:** SDR failure(s) **Cause:** SDR not setup properly **Action:** See "Verify the System Data Repository (SDR)" on page 38.
Error in: fopen(act.top.PID) fprintf(act.top.PID) fclose(act.top.PID rename(act.top, act.top.PID)	**Explanation**: An error occurred accessing /var//adm/SPlogs/css/act.top.PID **Cause:** File access problems **Action:** evaluate errno returned and take the appropriate action. If the problem persists contact IBM Software Support

Note: If the message found at the bottom of /var/adm/SPlogs/css/fs_daemon_print.file was not found in the previous table or the actions specified did not correct the problem, contact IBM Software Support.

Diagnose High Performance Switch Estart Problems

Refer to the following list of steps to diagnose Estart failures:

1. Login to the primary node.
2. View the bottom of /var/adm/SPlogs/css/fs_daemon_print.file.

Use the failure listed to index the following table:

Table 12. High Performance Switch Estart Problems

Messages	Analysis
Attempt to get the node list for this partition failed	**Explanation:** Unable to obtain a node list for the partition **Cause:** SDR not setup properly **Action:** See "Verify the System Data Repository (SDR)" on page 38
Attempt to change switch_responds to 0, failed	**Explanation:** Unable to turn off switch_responds in the SDR **Cause:** SDR not setup properly **Action:** See "Verify the System Data Repository (SDR)" on page 38
adapter_stop() failed.	**Explanation:** Unable to shutdown the switch adapter **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Software Support.
worm_init_tune() failed	**Explanation:** Unable initialize the switch **Cause:** Corrupt topology file **Action:** See "Verify Switch Topology Configuration" on page 38 **Cause:** bad switch(s), switch adapter(s) or switch cable(s) **Action:** Contact IBM Hardware Service
bring_node_up() failed	**Explanation:** Unable to bring the node on-line **Cause:** Routes failed to load onto the adapter, the adapter failed to start, the adapter failed to become ready **Action:** Run switch adapter diagnostics on the failing node. If diagnostics fails to isolate the problem contact IBM Software Support.
build_node_list() failed	**Explanation:** Errors occurred building /tmp/ node_list **Cause:** No space in /tmp **Action:** increase the size of /tmp **Cause:** Missing or corrupt topology file **Action:** See "Verify Switch Topology Configuration" on page 38.
link(out.top, act.top.PID) failed, errno =	**Explanation:** Unable to write or access /var/adm/SPlogs/css/act.top **Cause:** Errors accessing /var/adm/SPlogs/css/act.top **Action:** evaluate errno returned and take the appropriate action. If the problem persists contact IBM Software Support

Note: If the message found at the bottom of /var/adm/SPlogs/css/fs_daemon_print.file was not found in the previous table or the actions specified did not correct the problem, contact IBM Software Support.

SP Switch Worm Errors

Refer to the following list of steps to diagnose worm initialization failures:

1. Login to the primary node.
2. View the bottom of the /var/adm/SPlogs/css/worm.trace file. You should find a message similar to one of the following:

   ```
   TBSworm_bfs_phase1() failed with rc=xx
   ```

   or

   ```
   TBSworm_bfs_phase2() failed with rc=xx
   ```

3. Use the rc value on either of these messages to index the following table:

Table 13 (Page 1 of 2). SP Switch Worm Return Codes

Return Code	Analysis
-3	**Explanation:** Local adapter receiver port is not enabled **Cause:** The switch is not clocked **Action:** From the control workstation issue Eclock -d then Estart **Cause:** Oncoming Primary is fenced off of the switch **Action:** See “Eunfence the Oncoming Primary” on page 46.
-4	**Explanation:** Unable to generate routes for the network **Cause:** Corrupt topology file **Action:** See “Verify Switch Topology Configuration” on page 38.
-5	**Explanation:** Send packet from local node failed **Cause:** Bad switch adapter **Action:** Run switch adapter diagnostics on the primary node. If diagnostics fails to isolate the problem contact IBM Software Support.
-6	**Explanation:** A switch mis-wire was detected **Cause:** Switch network cabling does not match the switch topology file **Action:** View the /var/adm/SPlogs/css/cable_miswire file to determine which cables are in question. Then check and reconnect the associated cables. If the problem persists contact IBM Hardware Service.
-7	**Explanation:** A node mis-wire was detected **Cause:** Switch network cabling does not match the switch topology file **Action:** The device is not cabled properly. There are 2 possible causes for this condition. The first is that the switch network is miswired, the other is that the frame supervisor s TTY is not cabled properly. First view the /var/adm/SPlogs/css/cable_miswire file. Verify and/or correct all links listed in the file. Then issue Eclock -d and re-run Estart. If the problem persists contact IBM Hardware Service.

Table 13 (Page 2 of 2). SP Switch Worm Return Codes

Return Code	Analysis
-8	**Explanation:** Receive FIFO is full **Cause:** Bad Switch Adapter **Action:** Run switch adapter diagnostics on the primary node. If diagnostics fails to isolate the problem contact IBM Hardware Service. **Cause:** The switch is backed up from a node or a switch chip **Action:** Contact IBM Software Support
-9	**Explanation:** Unable to initialize FIFOs **Cause:** Bad Switch Adapter **Action:** Run switch adapter diagnostics on the primary node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
-27	**Explanation:** The TBIC was not initialized **Cause:** The switch adapter is uninitialized **Action:** rc.switch the primary node, then reissue Estart from the control workstation **Cause:** Bad Switch Adapter **Action:** Run switch adapter diagnostics on the primary node. If diagnostics fails to isolate the problem contact IBM Hardware Service.
-36	**Explanation:** This node resigned as the primary node **Cause:** The node determined it could no longer control and monitor the switch. The backup primary node is now in control of the switch. **Action:** No action required
-43	**Explanation:** A read or write operation to the switch adapter failed. **Cause:** Bad Switch Adapter **Action:** Run switch adapter diagnostics on the primary node. If diagnostics fails to isolate the problem contact IBM Hardware Service.

Note: If the rc value returned cannot be found in the table, contact IBM Software Support. Note: If you do not see the return code found at the bottom of /var/adm/SPlogs/css/worm.trace in the previous table or the actions specified did not correct the problem, contact IBM Software Support.

Chapter 9. Diagnosing System Connectivity Problems

If the system, frame, node or adapter icons on the System Monitor topology display are red or you cannot access the node using **rsh, telnet, rlogin,** or **ping**, check for the following symptoms to diagnose the problem.

Symptom	Recovery
The node topology shows multiple nodes are not responding (orange icon) or multiple adapters are inactive (red icon)	Action 1. Diagnose Multiple Nodes
The node topology shows a single node failure	Action 2. Diagnose Individual Nodes
Cannot access the node using **rsh, telnet, rlogin,** or **ping**	Action 3. Diagnose a Network Problem

Action 1. Diagnose Multiple Nodes

If several node icons in a frame report a failure, (either the nodes are not responding or several adapters are inactive) there may be a network problem.

If the failing nodes or communication adapters are on the same Local Area Network (LAN), verify the LAN hardware. If you determine that the hardware is functioning properly, call IBM support. Otherwise, follow local procedures for servicing your hardware.

If the nodes are not on the same LAN, diagnose the nodes individually as described in “Action 2. Diagnose Individual Nodes.”

Action 2. Diagnose Individual Nodes

If an individual node icon in a frame reports a failure, use the System Monitor to display the node's *Node Front Panel* layout.

1. Check the node's *3DigitDisplay* indicator.
2. If a three-digit code is displayed, check Chapter 25, “SP-Specific LED Values” on page 129 to see if the code is discussed there. If the code is not discussed in this section, refer to *IBM RS/6000 Problem Solving Guide*, SC23-2204
3. Check the *hostResponds* indicator for a failure.
4. Check the node's power indicator.

   If it shows the node power is off, turn the node's power on.

   If it shows the node power is on or if the problem persists, call IBM hardware support.

Action 3. Diagnose a Network Problem

If a node is not responding to a network command, you can access the node using the tty. This can be done by using the Node Front Panel in the System Monitor GUI or by issuing the **s1term** command and specifying the **-w** option for a write tty. Using this method, you can login to the node and check the hostname, network interfaces, network routes, and hostname resolution to determine why the node is not responding.

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Chapter 10. Diagnosing System Monitor Problems

- If you cannot monitor or operate hardware controls (such as powering on/off frames, nodes, or switches), check **/var/adm/splogs/SPdaemon.log** for messages that specifically indicate a hardware problem. Search for messages with resource name “sphwlog”.

  If you cannot find any messages related to hardware problems, check the table below for other symptoms.

- If you have a problem with the **spmon**, **hmmon**, **hmcmds**, **hmadm**, and **s1term** System Monitor commands, or the System Monitor GUI, check for the following symptoms to diagnose the problem:

Symptom	Recovery
System Monitor commands not found	Action 1. Verify Installation
System Monitor commands fail	Action 2. Verify Authorization
spmon -g command fails to start the System Monitor GUI	Action 2. Verify Authorization Action 3. Export Windows
Open session failure message window is displayed after opening the System Monitor GUI	Action 2. Verify Authorization Action 7. Check the Hardware Monitor Daemon (hardmon)
The System Monitor GUI terminates prematurely	Action 4. Check for a Core Dump
The System Monitor GUI hangs	Action 8. Check Performance Action 2. Verify Authorization
The System Monitor GUI hardware displays are blank and indicate a problem	Action 5. Frame Supervisor Communication Diagnosis
The Hardware Monitor daemon dies	Action 4. Check for a Core Dump Action 7. Check the Hardware Monitor Daemon (hardmon)
The logging daemon dies	Action 4. Check for a Core Dump
Performance problems on the control workstation	Action 8. Check Performance
Log file **/var/adm/SPlogs/SPdaemon.log** is no longer being updated or SP hardware error messages are no longer being written to the AIX error log	Action 6. Check Logging Daemon Action 7. Check the Hardware Monitor Daemon (hardmon)
The System Monitor GUI indicates a hardware problem	Action 9. Check Logs Action 10. Start State Change Logging
A logging daemon user exit is not being called when it should	Action 10. Start State Change Logging
Note: If the actions in this table do not resolve your problem, if you can re-create the problem, document the procedure and call IBM support for further assistance.	

Refer to the chapter on using the System Monitor in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more detail on performing various actions.

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Action 1. Verify Installation

1. Make sure the **ssp.basic** option of the **pssp.installp** image was installed. The **ssp.basic** option provides system monitoring function.

   - Run verification tests using SMIT or the command line to ensure installation is complete.

     Using SMIT:

     TYPE **smit SP_verify**

     - The Installation/Configuration Menu appears.

     SELECT SSP System Monitor Installation

     PRESS Enter.

     Using the command line, enter:

     ```
     /usr/lpp/ssp/bin/spmon_itest
     ```

2. Add /**usr**/**lpp**/**ssp**/**bin** to your **PATH** environment variable or use the full path name with the command.

Action 2. Verify Authorization

1. If your Kerberos ticket has expired, reissue **kinit**. Make sure the Kerberos principal name and optional instance for your ID is in the Hardware Monitor Action Control List (ACL) file, /**etc**/**hmacls**.
2. If you are unable to resolve the Kerberos problem refer to Chapter 5, “Diagnosing SDR Problems” on page 19.

Action 3. Export Windows

If you want to export your Xwindows to another X-server, be sure that the DISPLAY environment variable is set properly and that the X-server has authorized you to use it.

Action 4. Check for a Core Dump

Check /**var**/**adm**/**SPlogs**/**spmon**/**hardmon** or /**var**/**adm**/**SPlogs**/**spmon**/**splogd** for a core dump. If these files exist, save them.

Action 5. Frame Supervisor Communication Diagnosis

If this is a problem communicating with a frame, perform the diagnosis procedure described in Chapter 4, “Diagnosing Frame Supervisor Communication Problems” on page 17.

Action 6. Check Logging Daemon

If logging stops working, check the following:

1. If only **syslog** stops working:

   a. /**etc**/**syslog.conf** must have an entry for **daemon.notice** (or **daemon.debug** or **daemon.info**) in order to write to /**var**/**adm**/**SPlogs**/**SPdaemon.log**

   b. /**var**/**adm**/**SPlogs**/**SPdaemon.log** file must exist.

   c. /**var**/**adm**/**SPlogs**/**SPdaemon.log** file must have permissions set to **777**.

   Once this is set up, sending the HUP signal to **syslogd** will cause **syslogd** to reread its configuration file and start logging.

2. If only error logging stops working:
   a. Make sure the error record templates for SPMON have been defined:
      ```
      errpt -t | grep SPMON
      ```
   b. Make sure the error daemon is running:
      ```
      ps -ef | grep errdemon
      ```
   c. Make sure hardware events are happening by shutting down a node and bringing it back on.
3. If no logging is being done:
   a. Make sure the logging daemon is running:
      ```
      ps -ef | grep splogd
      ```
   b. Make sure the **/usr/lpp/ssp/config/hwevents** file is set up to do logging (with a valid SP_ERROR_LOG entry).
   c. Turn debugging on by editing **/usr/lpp/ssp/bin/splog.start** and adding a **-d** option to the line that starts **splogd**. Then, kill the logging daemon so it restarts.

Action 7. Check the Hardware Monitor Daemon (hardmon)

Try a hardmon monitor command from an ID that has monitor authority and a valid ticket-granting ticket from **kinit**. For example, to check frame 1, node 1, enter:

```
hmmon -Q 1:1
```

If this command does not work, check the hardmon log **/var/adm/SPlogs/spmon/hmlogfile**.*nnn*., where *nnn* is the Julian date of when the file was created

Action 8. Check Performance

1. Check that the paging space is adequate and adjust if necessary.
2. Check the overall CPU utilization. You can use the **vmstat** command to do this.
3. Check the CPU utilization of the hardmon and logging daemon. One method is issuing:
   ```
   ps gvc | grep hardmon
   ps gvc | grep splogd
   ```

If the CPU utilization rate is very high and cannot be attributed to the hardmon or logging daemon, look for other processes which are consuming the CPU resources. If you are using your control workstation as a boot file server, then check if the NFS daemons are using all of the processor time.

Action 9. Check Logs

Check the **/var/adm/SPlogs/SPdaemon.log** for hardware error messages. If the file is not found there, check the **/etc/syslog.conf** file to see where messages written to the daemon facililty are being directed. You can also find the same messages in the AIX error log. Issue the following command to get a detailed report of the SP hardware errors (found under resource name **sphwlog.**):

```
errpt -aN sphwlog. | pg
```

Action 10. Start State Change Logging

To get more information about what hardware variables are changing, state change logging can be enabled. Edit the **/usr/lpp/ssp/config/hwevents** file and uncomment the line that defines the function SP_STATE_LOG. Then, kill the logging daemon (**splogd**) so that it rereads the **/usr/lpp/ssp/config/hwevents** file.

Chapter 11. Diagnosing Resource Manager Problems

If applications using the Resource Manager cannot get access to parallel nodes or the Resource Manager fails, locate the symptom and perform the actions described in the following table.

Symptom	Recovery
Cannot start Resource Manager on any node	Action 6. Check the host_responds and switch_responds Values for Specified Nodes Action 5. Check Resource Manager Log Files
Error connecting to the Resource Manager Server	Action 4. Use the locate_jm Command to Indicate Whether the Resource Manager Daemons are Running and Their Node Locat Action 5. Check Resource Manager Log Files
Cannot configure Resource Manager	Action 5. Check Resource Manager Log Files Action 1. Verify Resource Manager Installation May be caused by network congestion, wait and try again
Cannot stop Resource Manager	Action 5. Check Resource Manager Log Files Action 1. Verify Resource Manager Installation May be caused by network congestion, wait and try again
Resource Manager fails	Action 5. Check Resource Manager Log Files Action 1. Verify Resource Manager Installation Restart after fixing problem
Applications using the Resource Manager cannot get access to parallel nodes	Action 4. Use the locate_jm Command to Indicate Whether the Resource Manager Daemons are Running and Their Node Locat Action 3. Check Resource Manager Status Action 5. Check Resource Manager Log Files Action 2. Verify Resource Manager Configuration

All Resource Manager commands operate within the scope of the current system partition environment.

Action 1. Verify Resource Manager Installation

Run verification tests using SMIT or the command line to ensure installation is complete.

Using SMIT:

TYPE **smit SP_verify**

- The Installation/Configuration Menu appears.

SELECT SSP Resource Manager Installation

PRESS Enter.

Using the command line, enter:

```
/usr/lpp/ssp/bin/jm_install_verify
```

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When executed on the control workstation, **jm_install_verify** checks the installation on every node configured for the SP. When run on a single node, it verifies only the installation of that node.

What Resource Manager Installation Verification Checks: The **jm_install_verify** script checks that the correct executables exist in **/usr/lpp/ssp/bin** and that there are links to **/usr/bin**. It also checks that the necessary SDR classes have been created, the message catalog has been installed and a sample **/etc/jmd_config** file created.

Installation Verification Test Output: The **jm_install_verify** script produces an output log, which can be found in **/var/adm/SPlogs/jm_install_verify.log** (by default) or the location can be specified by the user. After execution, a message is written to stdout as to whether the verification passed or failed. If a failure occurs, you must inspect this log for a list of the errors found.

If the Resource Manager has been installed correctly on the control workstation, the message written to stdout will appear:

```
Verifying installation of SSP Resource Manager on node 0.
SSP Resource Manager installation verification SUCCESSFUL on node 0.
```

If the Resource Manager has been installed correctly on the control workstation, the messages written to **jm_install_verify.log** appear:

```
Directory /usr/lpp/ssp exists ..PASS.
Directory /usr/lpp/ssp/README exists ..PASS.
File /usr/lpp/ssp/README/ssp.jm.README exists ..PASS.
Directory /usr/lpp/ssp/bin exists ..PASS.
File /usr/lpp/ssp/bin/jmd exists ..PASS.
Link /usr/bin/jmd exists ..PASS.
File /usr/lpp/ssp/bin/jm_start exists ..PASS.
Link /usr/bin/jm_start exists ..PASS.
File /usr/lpp/ssp/bin/jm_config exists ..PASS.
Link /usr/bin/jm_config exists ..PASS.
File /usr/lpp/ssp/bin/jm_stop exists ..PASS.
Link /usr/bin/jm_stop exists ..PASS.
File /usr/lpp/ssp/bin/jm_status exists ..PASS.
Link /usr/bin/jm_status exists ..PASS.
File /usr/lpp/ssp/bin/check_jmexists exists ..PASS.
File /usr/lpp/ssp/bin/jm_setupcss exists ..PASS.
File /usr/lpp/ssp/bin/dummy_css exists ..PASS.
File /usr/lpp/ssp/bin/locate_jm exists ..PASS.
Link /usr/bin/locate_jm exists ..PASS.
File /usr/lpp/ssp/bin/find_jm exists ..PASS.
Link /usr/bin/jm_install_verify exists ..PASS.
File /usr/lpp/ssp/bin/jm_verify exists ..PASS.
Link /usr/bin/jm_verify exists ..PASS.
File /usr/lpp/ssp/bin/alloc_impl_node exists ..PASS.
File /usr/lpp/ssp/bin/alloc_expl_ded exists ..PASS.
File /usr/lpp/ssp/bin/alloc_batch_node exists ..PASS.
File /usr/lpp/ssp/bin/spmsg_jm exists ..PASS.
Directory /usr/lpp/ssp/include exists ..PASS.
File /usr/lpp/ssp/include/jm_client.h exists ..PASS.
Link /usr/include/jm_client.h exists ..PASS.
Directory /usr/lpp/ssp/lib exists ..PASS.
File /usr/lpp/ssp/lib/libjm_client.a exists ..PASS.
Link /usr/lib/libjm_client.a exists ..PASS.
```

```
Directory /usr/lpp/ssp/samples exists ..PASS.
File /usr/lpp/ssp/samples/jmd_config exists ..PASS.
File /usr/lib/nls/msg/En_US/jm.cat exists ..PASS.
File /usr/lib/nls/msg/en_US/jm.cat exists ..PASS.
File /usr/lib/nls/msg/C/jm.cat exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_accesscontrol exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_addpool exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_changepool exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_createjmdconfig exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_deletepool exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_discover exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_listdata exists ..PASS.
File /usr/lpp/ssp/bin/jmcmi_servernodes exists ..PASS.
File /usr/lpp/ssp/bin/spmsg_jmcmi exists ..PASS.
File /usr/lib/nls/msg/En_US/jmcmismit.cat exists ..PASS.
Entry for jmd exists in  /etc/services  ..PASS.
Entry for ijmd exists in  /etc/services ..PASS.
Entry for ijmd exists in  /etc/inetd.conf ..PASS.
SDR class (Pool) exists ..PASS.
SDR class (JM_server_nodes) exists ..PASS.
SDR class (JM_domain_info) exists ..PASS.
SDR class (JM_job_info) exists ..PASS.
SDR class (JM_node_usage) exists ..PASS.
File /etc/jmd_config exists ..PASS.
```

Action 2. Verify Resource Manager Configuration

Run verification tests using SMIT or the command line to ensure installation is complete.

Using SMIT:

TYPE **smit SP_verify**

- The Installation/Configuration Menu appears.

SELECT SSP Resource Manager Configuration

PRESS Enter.

Using the command line, enter:

```
/usr/lpp/ssp/bin/jm_verify
```

Caution: Execute the **jm_verify** script when no other users are allocating nodes via the Resource Manager.

What Resource Manager Configuration Verification Checks: The **jm_verify** script reads all of the necessary information from the SDR and checks that the primary and backup servers are running. It then tries to execute three types of allocations: an implicit request, an explicit request, and a batch request. The various pool and node information is obtained via the SDR. If the needed information is not available, a warning will be issued for the system administrator to investigate. As in the previous example **jm_verify.log**, no batch nodes were defined in the **/etc/jmd_config**, therefore, the Batch Node allocation test was not performed.

Configuration Verification Test Output: The **jm_verify** script produces an output log which can be found in **/var/adm/SPlogs/jm_verify.log** (by default) or the location can be specified by the user. After execution, a message will be written to

stdout as to whether the verification passed or failed. If a failure occurs, you must inspect the log for a list of the errors found.

When the verification test has been successfully executed on the control workstation, the following message is written to stdout:

```
Verifying SSP Resource Manager on node 0.
SSP Resource Manager verification SUCCESSFUL on node 0.
```

When the verification test has been successfully executed on the control workstation, the following messages are written to **jm_verify.log**:

```
RM Primary node (r07n01.hpssl.kgn.ibm.com) seems operational ..PASS.
RM Backup node (r07n03.hpssl.kgn.ibm.com) seems operational ..PASS.
/usr/lpp/ssp/bin/SDRGetObjects: Item specified for query, insertion
or deletion was not found.

Implicit node allocation in pool 1 test begins.....
        RETURN CODE    NODE NAME   NODE ADDRESS
         0      r07n01.hpssl.kgn.ibm.com       129.40.136.1
        Implicit node allocation passed
Implicit Node allocation test passed ..PASS.

Explicit allocation of 2 nodes test begins.....
        node name =  r07n01
        node name =  r07n03
        RETURN CODE   NODE NAME  NODE ADDRESS
        0     r07n01.hpssl.kgn.ibm.com     129.40.136.1
        0     r07n03.hpssl.kgn.ibm.com     129.40.136.3
        Explicit node allocation test passed
Explicit Node allocation test passed ..PASS.

Unable to find Batch Pool in SDR ..ATTENTION.

Batch Node allocation test NOT performed ..ATTENTION.
```

Action 3. Check Resource Manager Status

1. Use the **jm_status** command to display status and usage of all parallel nodes. Issue:

   ```
   jm_status -P -v
   ```

   Refer to **jm_status** in the *IBM Parallel System Support Programs for AIX: Command and Technical Reference* for usage and output examples.

Action 4. Use the locate_jm Command to Indicate Whether the Resource Manager Daemons are Running and Their Node Locat

The **locate_jm** command helps you determine if the Resource Manager servers are running and what nodes the servers are running on. The log files you should investigate first are the ones from the nodes on which Resource Manager servers are running.

Action 5. Check Resource Manager Log Files

Two log files are updated by the Resource Manager.

- **/var/adm/SPlogs/jm/jmd_out** contains general information about the operation of Resource Manager daemons.
- **/var/adm/SPlogs/jm/jmd_err** contains errors encountered by Resource Manager daemons.

Data is written to these files any time a Resource Manager daemon runs on the node. If an error occurs during starting or operation of the Resource Manager daemons, check the **/var/adm/SPlogs/jm/jmd_err** file on these nodes in the following order:

1. The node on which the primary Resource Manager server runs
2. The node on which the secondary Resource Manager server runs
3. All other nodes.

Try and correct any obvious problems stated within the log.

Every time an allocation request is serviced, the Resource Manager prints out the job status to the **/var/adm/SPlogs/jm/jmd_out** file. The following example shows a job successfully requesting two nodes:

```
********************
Tue May  2 14:19:01 1995: Job ID (1) Sending allocation request result=2
job_id=1:0, node=9, pool=-1, cpu=0, adp=1, numvir=1, rc=0
job_id=1:1, node=10, pool=-1, cpu=0, adp=1, numvir=1, rc=0
  Job Allocation:
  User id: 0 Client PID: 17660 Client Node: k42n09.hpssl.kgn.ibm.com
  Description: alloc_expl_ded_fvt_test
  Number of nodes requested: 2 Adapter Type: Ethernet
  First node in list: k42n09.hpssl.kgn.ibm.com
********************
```

This job status shows:

- The date and time of the allocation request, the Resource Manager Job ID assigned to the client, and the allocation request results. If the result=0, the request failed.
- The client node from which the allocation request was made.
- Number of nodes requested and type of adapter.
- First node in the list returned to the user.

The most important debug field is the **rc** field after each node. The field contains the return code for each node of the request.Table 14 on page 72 lists the return codes; you can also look at **/usr/include/jm_client.h** for this information.

Table 14. JM_RETURN_CODES

Return Code	Name	Explanation
0	JM_SUCCESS	Allocation was successful.
1	JM_NOTATTEMPTED	Allocation was not attempted because of an error found on a prior node.
2	JM_INVALIDPOOL	An invalid pool was specified.
3	JM_INVALIDSUBPOOL	An invalid subpool specified. Either an interactive job requested a batch node or a batch job requested an interactive node.
4	JM_INVALIDNODENAME	The node name was not recognized by the Resource Manager.
5	JM_EXCEEDEDCAPACITY	A node satisfying the request was not available.
6	JM_DOWNONENET	The **host_responds** of the node is 0.
7	JM_DOWNONSWITCH	The **switch_responds** of the node is 0.
8	JM_INVALIDUSER	The user doesn't have a userid on the system.
9	JM_INVALIDADAPTER	The adapter specified is not supported.
10	JM_PARTITIONCREATIONFAILURE	An error occurred creating the partition table on nodes for a switch-based job.
11	JM_SWITCHFAULT	The **switch_responds** is 0 for all nodes.
12	JM_SYSTEMERROR	A system error occurred. Further details should be found prior to this return code in the log.

AIX Error Logs and Templates

The Resource Manager uses the AIX error log facility to record specific events. To view any Resource Manager error events, issue the following at the node in question:

```
errpt -N ResourceManager
```

When you retrieve an error log entry, look for the “Diagnostic Explanation” and “Cause” sections near the bottom of the entry. See Table 15 for the actions to take for the specified “Diagnostic Explanation” and “Cause” sections.

Table 15 (Page 1 of 3). Resource Manager Error Log Templates.

ID	Error Type	Diagnostic Explanation and Action
JM_TRUNCATE_ST	UNKN	**Explanation** The log *logname* was copied to **logname.previous** and then truncated.
		Causes One of the Resource Manager logs exceeded its predefined size, was copied, then truncated.
		Actions None required

Table 15 (Page 2 of 3). Resource Manager Error Log Templates.

ID	Error Type	Diagnostic Explanation and Action	
JM_STARTSTOP_ST	UNKN	**Explanation**	One of: • The Resource Manager Primary daemon was started on this node. • The Resource Manager Backup daemon was started on this node. • The Resource Manager Primary daemon received the **jm_stop** command. • The Resource Manager Backup daemon received the **jm_stop** command. • The Resource Manager Primary daemon received the **jm_stop -q** command. • The Resource Manager Backup daemon received the **jm_stop -q** command.
		Causes	The Resource Manager was started or stopped on that node.
		Actions	None required
JM_TAKEOVER_ER	TEMP	**Explanation**	The Resource Manager Backup daemon is taking over as primary.
		Cause	The Backup Resource Manager daemon lost its connection to the Primary daemon, so is taking over as Primary.
		Actions	Check the **/var/adm/SPlogs/jm** logs to get more information about the error. Check to see if the node on which the Primary was running is down. Check to see if there are network problems between the Primary and Backup daemons.
JM_PARTCREATE_ER	PERM	**Explanation**	Job *jobid* : The Resource Manager failed to create a partition table for the High Performance Switch on this node.
		Causes	The Resource Manager was unable to create the partition table for a job. Possible causes are: • EPERM; caller not authorized • ETIMEDOUT; timeout trying to reinitialize • EINVAL; invalid arguments • Another job is already using the table.
		Actions	Check the **/var/adm/SPlogs/jm** logs to get more information about the error. Perform HPS diagnostics Issue the fs_dump command and look for messages about JM_distribute_PT.

Table 15 (Page 3 of 3). Resource Manager Error Log Templates.

ID	Error Type	Diagnostic Explanation and Action	
JM_NOBACKUP_ER	UNKN	**Explanation**	The Primary Resource Manager daemon failed to start a backup daemon on any of the nodes in the server list.
		Causes	One of: . Only one node listed in config file for JM_LIST. . SDR error occured during initialization. . **host_responds** indicated all other nodes were down.
		Actions	Perform standard problem determination procedures.
JM_DAEMONDIED_ER	PERM	**Explanation**	One of: • The Job Manager daemon, (**jmd**), experienced an unrecoverable error and is going down. • The Resource Manager daemon, (**RM**), could not change the process group using **setpgid**. • An error was encountered during the initialization of the Primary or Backup **RM** daemon. • Fatal error encountered in the Primary or Backup RM while running. • An error was encountered during the reconfiguration of the Primary RM daemon. • Fatal error encountered in the RM child while running.
		Causes	One of: • **setpgid** system call failed. • **getservbyname** system call failed. • Error manipulating a socket. • **gethostbyname** system call failed. • SDR error occured.
		Actions	Check the **var/adm/SPlogs/jm** logs to get more information about the error. Perform standard problem determination procedures.
JM_RECONFIG_ST	UNKN	**Explanation**	The Resource Manager Daemon received the request to reconfigure.
		Causes	The **jm_config** command was issued
		Actions	None required
JM_NOJOB_ER	PERM	**Explanation**	Job *job_id* is being deallocated. All job data will be removed from the SDR.
		Causes	One of: . The socket connection between a running job and the RM child managing it was broken. . The RM child died, but the job is still running.
		Actions	Check the **var/adm/SPlogs/jm** logs to get more information about the error. Perform standard problem determination procedures.

Action 6. Check the host_responds and switch_responds Values for Specified Nodes

The Resource Manager reads the value of the SDR class, **host_responds**, to determine whether a node is up and running. The value of **host_responds** must be 1 in order for the Resource Manager to allocate or start a server on that node. Issue:

```
SDRGetObjects host_responds node_number==X
```

where *X* represents the node number of the specified node.

The Resource Manager reads the value of the SDR class, **switch_responds**, to determine whether that node has the switch connection up and available. The value of **switch_responds** must be 1 in order for the Resource Manager to allocate that node for a job requesting the switch. Issue:

```
SDRGetObjects switch_responds node_number==X
```

where *X* represents the node number of the specified node.

Or, monitor via **spmon**. To enable the GUI, issue:

```
spmon -g
```

Then, via the All Node Summary Display option, you can choose to monitor switchResponds or hostResponds.

Chapter 12. Diagnosing User Access Problems

If your users are having problems logging into the SP System or accessing their home directories, locate the symptom and perform the action described in the following table.

Symptom	Recovery
No one can login to an SP node	Reboot the node in maintenance mode. If no one is able to login, including root, follow the steps in Chapter 18, "Diagnosing Devices Including the Hard Disk" on page 97 for rebooting a node in maintenance mode.
User unable to login to SP node	Action 1. Check the /etc/security/passwd File Action 2. Check Login Control
User unable to access directories managed by the automounter.	Action 3: Verify that the Automount Daemon is Running

Action 1. Check the /etc/security/passwd File

If a user is having problems logging in to nodes in the SP System, check the `login` and `rlogin` attributes for the user in the **/etc/security/passwd** file on the SP node.

Action 2. Check Login Control

Check the Login Control facility to see whether the user's access to the node has been blocked.

The System Administrator should verify that the user is allowed access. The System Administrator may have blocked interactive access so that parallel jobs could run on a node.

If the user is allowed interactive access:

1. If the Resource Manager is configured to use Login Control, quiesce the Resource Manager, wait for the jobs to finish, and then use the **spacs_cntrl** command to unblock the user on the node.
2. If the Resource Manager *is not* configured to use Login Control, issue the **spacs_cntrl** command to unblock the user on that node.

Action 3: Verify that the Automount Daemon is Running

Review the commands in the following table and issue the ones that are appropriate for diagnosing the problem that is occuring.

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Command	Comments
ps -ef | grep automount	Verifies that the automount daemon is running on the system on which you are having problems accessing directories.
mount	Provides the process id of the automount daemon if it is running, the names of the file systems controlled by the automount daemon, and the active mounts under /**tmp_mnt** directory.
view /var/adm/SPlogs/auto/auto.log	Contains error messages generated by PSSP.
view /var/adm/SPlogs/SPdaemon.log	Contains error messages generated by the automount daemon.
splstdata -e | grep amd_config	Informs whether SP automounter has been configured.
splstdata -e | grep usermgmt_config	Informs whether SP user management support has been configured.
splstdata -e | grep filecoll_config	Informs whether SP file collections have been configured.
view /etc/auto.master	Lists the file systems to be controlled by automount and their associated map files.
ls -l /etc/auto/maps	Lists of map files and whether they are readable. Specifically, the existence of auto.u map file.
view /etc/auto/maps/auto.u	Lists the user map entries for the /**u** file system.
ls -l /etc/auto/cust	Lists customization files and whether they are executable.
view /var/sysman/sup/lists/user.admin	Lists automounter files that are distributed through file collections.

It may be that the automounter daemon is not running. It is also possible that automount is running but that there is another problem.

```
ps -ef | grep automount
```

1. automount Is Not Running: If issuing the previous **ps** command did not show that the automount process was running, issue:

```
mount
```

to see if any automount points are still in use. If you see an entry similar to the following one, there is still an active automount mount point.

```
luna.pok.ibm.com (pid23450@/u) /u afs Nov 07 15:41 ro,noacl,ignore
```

Attempt to unmount the filesystem by issuing:

```
umount /u
```

If the filesystem is busy, issue the following command to determine the processes accessing the filesystem. Stop all of these processes and attempt to unmount the filesystem again.

```
fuser /u
```

If the **mount** command does not show any active mounts for automount, issue the following command to start the autmounter:

```
/etc/auto/startauto
```

Proceed as follows:

- **startauto** succeeds

If this command succeeds, issue the previous **ps** command again to verify that the automount daemon is actually running. If so, verify that the user directories can be accessed or continue with "2.automounter Is Running, But the User Cannot Access User Files" on page 80.

Note that the automount daemon should be started automatically during boot. Check to see if your SP system is configured for automounter support by issuing:

```
splsdata -e | grep amd_config
```

If the result is *true*, you have automounter support configured for the SP in your Site Environment options.

If the **startauto** command was successful but the automount daemon is still not running, check to see if the SP automounter function has been replaced by issuing:

```
ls -l /etc/auto/cust
```

If the result of this command contains an entry similar to:

```
-rwx ----- 1 root system 0 Nov 12 13:20 startauto.cust
```

the SP function to start the automounter has been replaced. View this file to determine which automounter was started and follow local procedures for diagnosing problems for that automounter.

If the result of the **ls** command does not show any executable user customization script, check both the automounter log file **/var/adm/SPlogs/auto/auto.log** and the daemon log file **/var/adm/SPlogs/SPdaemon.log** for error messages. Find the recorded error messages in the appropriate *Messages* section of this book or in the AIX error message documentation and follow the recommended actions.

- **startauto** fails

  If the **startauto** command fails, find the reported error messages in the appropriate *Messages* section of this book and follow the recommended actions. Check the automounter log file **/var/adm/SPlogs/auto/auto.log** for additional messages. Also, check the daemon log file **/var/adm/SPlogs/SPdaemon.log** for messages that may have been written by the automounter daemon itself.

  If no error messages were recorded, the failure may be due to problems with the automount map files, master map file, or the **/u** directory. Check the following:

  – Verify that all entries in the automount master map file **/etc/auto.master** are correct and follow the format specified in the AIX publication *System Management Guide: Communications and Networks*. If there are no entries in this file, the automount daemon invocation will fail.

  – Verify that each map file the master map references is correct and follows the format specified in the same AIX publication.

  – Verify that each file system listed in the master map file is a local directory and is not a symbolic link to another directory. The *PSSP System Administration Guide* contains a chapter on managing the Automount that contains useful information for understanding your SP automounter installation.

2.automounter Is Running, But the User Cannot Access User Files: If the result of issuing **ps -ef** | **grep automount** is similar to:

```
root 21430    1   0  10:37:41    0:00 /usr/sbin/automount
/etc/auto.master  -m -D HOST=k22n11
```

the automount daemon is running. The problem may be that automount is waiting for a response from an NFS server that is not responding, or that there is a problem with a map file.

Check the **/var/adm/SPlogs/SPdaemon.log** for information relating to NFS servers not responding. If a user's files are mounted with NFS and the server is not responding, then automount may hang on the NFS mount request. This NFS failure should be resolved prior to continuing. After you resolve the NFS failure, you can restart the automount daemon.

If the problem does not appear to be related to an NFS failure, you will need to check your automount maps. Look at the **/ect/auto/maps/auto.u** map file to see if an entry for the user exists in this file. If the user's name is test, and the command **cd /u/test** results in:

```
ksh:  /u/test:   not found
```

you can look at the **auto.u** map to see if there is an entry defined for the user by issuing:

```
grep test /etc/auto/maps/auto.u
```

The result may indicate that there is no entry for this user in the automounter map. This can happen if the user was recently added and the maps have not been distributed in the file collections. To check if the file gets updated with the new map copied from the control workstation, issue the following command on the node experiencing the problems:

```
supper update -v user.admin
```

Note that the aumomount maps are automatically distributed to the nodes each hour by command in the cron. You can look at these commands with **crontab -l**.

After you updated the **auto.u** map with the version that contains the uer information, reread the **auto.u** map by issuing:

```
grep test /etc/auto/maps/auto.u
```

If the result appears as follows:

```
test   luna:/home/luna:&
```

issue the following:

```
cd /u/test
```

If the **cd** command does not work, there may not be a route to the hostname specified in the host field of the user's automount map entry. This can happen on file servers where there are multiple interfaces and the routing has not been defined for all of the interfaces from the systems attempting to access the server. You can verify this by attempting to *ping* the server specified.

Another possible problem is that the server is exporting the file system to an interface that is not the interface from which the client is requesting the mount. This problem can be found by attempting to mount the file system manually on the

system where the failure is occurring. For the map in the previous example, you could issue:

```
mount luna:/home/luna /mnt
```

to mount the file system on /**mnt**. Listing the contents would show the user's files. If the map file information is incorrect use the **spchuser** command from the control workstation to update the map file entry for the user. For example, if the test user's home directory moves from *luna* to *starship*, you would issue:

```
spchuser home=starship:/home/starship/test test
```

This will update the automount map file. You must then wait up to five minutes with no access attempts to the /**u**/**test** directory. This will allow the automount daemon to time out any old access attempts to the previously mounted **luna:**/**home**/**luna** exported file system. Do not attempt to force the unmount by manually issuing the **umount** command on the previously mounted filesystem. This will put the automounter daemon in an inconsistent state and you will need to stop and restart the daemon to recover access to the /**u**/**test** directory.

Stopping and Restarting automount

If you have determined that you need to stop and restart the automount daemon, the cleanest and safest way is to reboot the system. However, this may not be desired due to other processes currently running on the system. If you cannot reboot the system, follow these steps:

1. Determine whether any users are already working in directories mounted by the automount daemon. Issue:

   ```
   mount
   ```

   If the automount daemon is running, you will see an entry similar to:

   ```
   luna.pok.ibm.com (pid234500@/u) nfs Nov 07 15:41
   rc,noacl,ignore
   ```

   Also, if a user is working in a directory mounted by the automount daemon, you will see an entry similar to:

   ```
   luna.pok.ibm.com /home/luna /tmp_mnt/u/test nfs Nov 18 11:30
   rw,hard,noacl,rsize=4096,wsize=4096,timeo=40,retry=3
   ```

   You can request the user to either logoff or **cd** out of their home directory so that the directory will not longer be in use. If any directory managed by the automount daemon is in use at the time the daemon is stopped, the mount will continue to exist until it is manually removed or the system is rebooted.

2. Stop the automount daemon

   ```
   kill -term process_id
   ```

   where *process_id* is the process number listed by the previous **mount** command. You can also determine the automount process number by issuing:

   ```
   ps -ef | grep automount

   root 23450     1   0 11:35:49   -  0:00 /usr/sbin/automount -f
    /etc/auto.master -m -D HOST=luna
   ```

   To stop the process shown in this example, you would issue:

   ```
   kill -15 23450
   ```

   The commands **kill -term pid** and **kill -15 pid** are identical.

Note that it is important that you do not stop the daemon with the **kill -kill** or **kill -9**. This will prevent the automount daemon from cleaning up its mounts and releasing its hold on the file systems. It may cause file system hangs and force you to reboot your system to recover those file systems.

3. Start the automount daemon

   ```
   /etc/auto/startauto
   ```

   You can verify that the daemon is running by issuing the previous **mount** or **ps** commands.

Chapter 13. Diagnosing NIM Problems

This chapter discusses problems installing and configuring SP nodes with the Network Installation Management (NIM) service. See *IBM Parallel System Support Programs for AIX: Installation Guide* for information about the installation process, *IBM Parallel System Support Programs for AIX: Administration Guide* for information about system management, and *IBM AIX Version 4.1 Network Installation Management Guide and Reference* for more NIM information.

Useful NIM Commands

NIM diagnosis and recovery tasks commonly require you to reset or recover NIM objects. Before and after you do this, you should list the NIM database information to find out the current NIM status and contents. Several NIM commands can help you determine how NIM is configured and can reset or remove some NIM objects.

Listing NIM Database Information

Use the **lsnim** command to list NIM database information. Use **lsnim** to list only the objects, and **lsnim -l** to list all the objects and their attributes. An example of **lsnim** usage is:

```
> lsnim
master              machines        master
boot                resources       boot
nim_script          resources       nim_script
spnet               networks        ent
lppsource           resources       lpp_source
psspspot            resources       spot
noprompt            resources       bosinst_data
prompt              resources       bosinst_data
psspscript          resources       script
mksysb_1            resources       mksysb
spnet_en1           networks        ent
k47n01              machines        standalone
k47n02              machines        standalone
⋮
k47n12              machines        standalone
k47n13              machines        standalone
```

Managing NIM Objects in the NIM Database

Issue the **nim** command to manage NIM objects in the NIM database. See *IBM AIX Version 4.1 Network Installation Management Guide and Reference* for the **nim** command and all its options.

Using the nim Command to Unconfigure the NIM Master

Unconfigure the NIM master only if you need to start completely over. Do this, as a last resort.

1. Issue:

   ```
   nim -o unconfig master
   ```

2. To uninstall the NIM master lpp issue:

   ```
   installp -u bos.sysmgt.nim.master
   ```

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3. To reinstall the lpp and redefine and configure the NIM master issue:

   ```
   setup_server
   ```

setup_server reinstalls the **bos.sysmgmt.nim.master** lpp and redefines and configures the NIM master. This command may take some amount of time to complete depending on the number of lpps installed.

Reviewing NIM Client Definition

A closer look at the NIM client definition on the NIM master can often lead you to the source of a problem. Follow these steps to review the NIM client definition.

1. Determine the client's NIM master by issuing:

   splstdata -b -l *client_node_number*

   and looking at the **srvr** field which lists the NIM master's *node_number*.

2. Determine the NIM master host name by issuing:

   splstdata -b -l *server_node_number*.

   (You can skip this step if this is the control workstation.)

3. Login to the NIM master using **telnet** or **rsh** and the reliable host name.
4. Use **lsnim** to list the objects in the NIM master's database.
5. Use **lsnim -l** *client_name* to list the NIM client definition for the node that is having the problem.
6. Review the information in the following table and ensure that the necessary resources are allocated for bootp_response. If not, run the **mknimres** command or the **setup_server** command on either the control workstation or the server.

Table 16. NIM Client Definition Information

bootp_response	Cstate	Allocations	
install	BOS installation has been enabled	spot	psspspot
		lpp_source	lppsource
		bosinst_data	noprompt
		script	psspscript
		mksysb	mksysb_1
diag	diagnostic boot has been enabled	spot	psspspot
		bosinst_data	prompt
maintenance	BOS installation has been enabled	spot	psspspot
		bosinst_data	prompt
disk or customize	ready for a NIM operation		
migrate	BOS installation has been enabled	spot	psspspot
		lpp_source	lppsource
		bosinst_data	migrate
		script	psspscript
		mksysb	mksysb_1

Export Problems

NIM exports the directories that are locations of the resources the NIM client needs to perform the installation.

Occasionally NIM may be unable to configure a NIM client when a NIM client definition is not entirely removed from the exported directories it manages. Here is an example of the successful export, by the **exportfs** command, of a NIM client, k47tpn09, which is ready to be installed:

exportfs

```
/spdata/sys1/install/pssplpp   -ro
/spdata/sys1/install/pssp/noprompt
/spdata/sys1/install/pssp/pssp_script
/spdata/sys1/install/images/bos.obj.min.41
                               -ro,root=k47tpn09.hpssl.kgn.ibm.com
/export/nim/scripts/k47tpn09.script
                               -ro,root=k47tpn09.hpssl.kgn.ibm.com
/spdata/sys1/install/lppsource -ro
```

Note: The /**spdata**/**sys1**/**install**/**images** directory entry for your node reflects your **mksysb** image name and the **noprompt** name depends on the installation disks you have selected.

The /**spdata**/**sys1**/**install**/**pssplpp** and /**spdata**/**sys1**/**install**/**lppsource** directories are exported as *read-only* by everyone.

A problem occurs if the client you are attempting to define is listed in some of these directories but the resource has not been allocated to the NIM client as described above. This may happen if NIM has not successfully removed the NIM client in a previous NIM command.

To determine if this is a problem with the definition of your nodes as NIM clients, use the **exportfs** command to list the exported directories on the NIM master where the problem is occurring.

1. List the exports

   ```
   > exportfs

   /spdata/sys1/install/pssplpp               -ro
   /spdata/sys1/install/lppsource             -ro
   /spdata/sys1/install/images/bos.obj.min.41 -ro,root=k47tpn09
   ```

2. To correct this situation you must issue the **rmnfsexp** command to remove the client from the exported list.

   rmnfsexp -d /spdata/sys1/install/images/bos.obj.min.41

   ```
   unexported /spdata/sys1/install/images/bos.obj.min.41
   ```

3. List the exports again to verify that the exported directory has been removed from the export list.

   exportfs

   ```
   /spdata/sys1/install/pssplpp   -ro
   /spdata/sys1/install/lppsource -ro
   ```

Once the NFS export has been corrected, you can issue **setup_server** on the NIM master to redefine the NIM client.

Conflicting NIM Cstate and SDR information

A NIM client may be in a state that conflicts with your intentions for the node. You may intend to install a node, but **setup_server** returns a message that the **nim -o bos_inst** command failed for this client. When **setup_server** runs on the NIM master to configure this node it detects that the node is busy installing and does not reconfigure it. This can happen for several reasons.

- During a node NIM **mksysb** installation the client node being installed was interrupted before the successful completion of the node installation.
- A node was booted in diagnostics or maintenance mode and now you would like to reinstall it.
- The node was switched from one **bootp_response** to another.

Each of these occurrences causes the client to be in a state which appears that the mode is still installing.

To correct this problem, issue the following command for the NIM client.

nim -Fo reset *client_name*

Allocation of a Resource to a Client Fails

In some situations an allocation for a resource may fail when **setup_server** is attempting to allocate those resources to the client.

Allocating the SPOT Resource Fails

If allocating the SPOT resources fails follow these steps to determine and correct the problem:

1. Perform a check on the SPOT by issuing **nim -o check psspspot**. This check should inform you if there is a problem.
2. If you are unable to determine the problem with the SPOT, you can update the SPOT by issuing **nim -o cust psspspot**
3. Finally, you can remove the SPOT with **nim -Fo remove psspspot** and then run **setup_server** to recreate the SPOT.

   Note: **setup_server** can take some amount of time to create the SPOT.

Creation of the mksysb Resource Fails

If **setup_server** cannot create the **mksysb** resource, verify that the specified mksysb image is in the **/spdata/sys1/install/images** directory.

Creation of the lppsource Resource Fails

If **setup_server** is unable to create the lppsource resource, verify that the minimal required filesets reside in the **lppsource** directory

```
/spdata/sys1/install/lppsource
```

The file **/usr/lpp/bos.sysmgt/nim/methods/c_sh_lib** contains a variable SIMAGES_OPTIONS which lists required filesets. NIM uses this variable when creating an lpp_source.

This is the listing of the SIMAGES_OPTIONS variable:

```
SIMAGES_OPTIONS="\
    bos \
    bos.info.any \
    bos.net \
    bos.rte.up \
    bos.rte.mp \
    bos.diag \
    bos.powermgt \
    bos.sysmgt \
    bos.terminfo.all \
    devices.all \
    X11.apps \
    X11.base \
    X11.compat \
    X11.Dt \
    X11.fnt \
    X11.loc \
    X11.motif \
    X11.msg.all \
    X11.vsm"
```

To successfully create the lppsource resource on a boot/install server, **setup_server** must acquire a lock in the lppsource directory on the control workstation. Failure to acquire this lock may mean that the lock was not released properly. This lock file contains the hostname of the system that currently has the lock. The lock file is: **/spdata/sys1/install/lppsource/lppsource.lock**. Login to the system specified in the lock file and determine if **setup_server** is currently running. If it is not running, remove the lock file and run **setup_server** again on the system that failed to create the lppsource resource.

To successfully create the lppsource resource on a boot/install server, setup_server must acquire a lock in the lppsource directory on the control workstation. Failure to acquire this lock may mean that the lock was not released properly. This lock file contains the hostname of the system which currently has the lock. Login to the system specified in the lock file and determine if setup_server is currently running. If it is not running, remove the lock file and rerun setup_server on the system which failed to create the lppsource resource. The file is **/spdata/sys1/install/lppsource/lppsource.lock**.

Missing installp images

If you determine that you are missing installp images do the following actions:

1. Download them from the AIX 4.1.4 installation tape to the appropriate lppsource resource directory
2. Either

   a. remove the lppsource resource and run **setup_server**

   or

   b. unconfigure the NIM master, uninstall the bos.sysmgt.nim.master lpp, and run **setup_server**.

Note: This command may take some amount of time to complete depending on the number of lpps installed.

Creation of the SPOT Resource Fails

If **setup_server** fails to create the SPOT resource, verify that the following resources are available:

1. First use the **df** command to verify that none of the filesystems are full.
   a. Verify that the root(/) filesystem has enough space. The NIM network install images will reside in /**tftpboot**. NIM recommends that you have enough room for eight 2.5MB images or a total of 20MB.
   b. There should be at least 1MB of free space in /**tmp**.
2. List the lppsource resource to see if it is available. Here is a sample of a valid lppsource resource:

```
> lsnim -l lppsource

lppsource:
   class       = resources
   type        = lpp_source
   server      = master
   location    = /spdata/sys1/install/lppsource
   alloc_count = 0
   Rstate      = ready for use
   prev_state  = unavailable for use
   simages     = yes
```

   The Rstate is **ready for use** and the simages is **yes**.

If the simages attribute on the lppsource resource is **no** then the required images for the support images needed to create the SPOT were not available in the lppsource resource. The required images needed for the SPOT creation are listed in the REQUIRED_SIMAGES variable in the /**usr**/**lpp**/**bos.sysmgt**/**nim**/**methods**/**c_sh_lib** file. Here is a listing of the REQUIRED_SIMAGES variable:

```
REQUIRED_SIMAGES="\
    bos \
    bos.net \
    bos.rte.up \
    bos.rte.mp \
    bos.diag \
    bos.sysmgt \
    bos.terminfo \
    bos.terminfo.all.data \
    devices.base.all \
    devices.buc.all \
    devices.graphics.all \
    devices.mca.all \
    devices.scsi.all \
    devices.sio.all \
    devices.sys.all \
    devices.tty.all"
```

If you determine that you are missing installp images from the lppsource directory, follow the steps in “Missing installp images” on page 87 to correct the problem.

Chapter 14. Diagnosing Node Installation Problems

Symptom	Recovery
Node fails to install from a mksysb image from its boot/install server	Action 1. Verify that the Boot/Install Server is Available Action 2. Open a Write Console to Check for Console Messages Action 3. Check Image Availability Action 4. Review the NIM Configuration for this Node

Action 1. Verify That the Boot/Install Server is Available

Perform the following steps to verify that the boot/install server is available:

1. Determine the clients' boot/install server by issuing:

   splstdata -b -l *client_node_number*

   The **srvr** field in the returned information lists the boot/install server node number.

2. Determine the boot/install server's host name by issuing:

   splstdata -b -l *server_node_number*

   Look at the hostname field in the returned information.

You can skip the following step if this is the control workstation.

3. Login to the boot/install server using **telnet** or **rsh** and the hostname.
4. Look at the /**etc**/**bootptab** to make sure the node you are installing is listed in this file. If the node is not listed in this file, see Chapter 13, “Diagnosing NIM Problems” on page 83.
5. If the node is listed in this file, continue to “Action 2. Open a Write Console to Check for Console Messages.”

Action 2. Open a Write Console to Check for Console Messages

1. At the control workstation open a write console for the node with the install problem by issuing:

   s1term -w *frame_number node_number*

2. Wait several minutes to see if any error messages are printed to the console which might help determine the cause of the problem. Also, look for NIM messages that might suggest that the installation is proceeding. An example of a NIM progress message is:

   / *step_number* of *total_steps* complete

   which tells how many installation steps have completed. This message is accompanied by an LED code of u54. Another NIM message of interest is:

   %% NIM Customization in Process

   which is displayed after the **mksysb** installation is complete and further customization is taking place.

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Action 3. Check Image Availability

Check to see if the image is available and the permissions are appropriate. Issue:

```
/usr/lpp/ssp/bin/splstdata -b
```

The **next_install_image** field lists the name of the image to be installed. If the field for this node is set to **default**, the default image specified by the **install_image** attribute of the SP object, will be installed. The images are found in the /**spdata**/**sys1**/**install**/**images** directory. You can check the images and their permissions by issuing:

```
ls -l /spdata/sys1/install/images
```

This should return:

```
total 857840
-rw-r--r--   1 root     sys      130083840 Jan 14 11:15 bos.obj.ssp.4.1
```

The important things to check are that the **images** directory has execute (x) permissions by all and that the image is readable (r) by all.

The **setup_server** script tries to clean up obsolete images on install servers. If it finds an image in the /**spdata**/**sys1**/**install**/**images** directory that is not needed by an install client, it deletes the image. However, **setup_server** deletes images on the control workstation only if the site environment variable REMOVE_IMAGES is **true**.

Action 4. Review the NIM Configuration for this Node

Chapter 13, “Diagnosing NIM Problems” on page 83 describes how to review the NIM configuration.

Chapter 15. Diagnosing Boot Problems

This chapter helps if you have a node that you are unable to boot, Usually this situation is caused by one of the following problems:

- A configuration change has been made to the node that affects the boot process.
- There is a hardware problem

Symptom	Recovery
Unable to boot node	Action 1. Boot a Node in Maintenance Mode

Action 1. Boot a Node in Maintenance Mode

To boot a node in maintenance mode you must change the bootp response in the SDR and then issue **setup_server** on the boot/install server to configure the node for a network boot. Follow these procedures to boot the node over the network to enter a maintenance shell:

1. To change the SDR information (bootp_response) for this node issue

   spbootins -r maintenance -l *node_number*

   then issue **setup_server** on the node's boot/install server. Watch for any error messages at this point. If you receive any, be sure to fix the error before continuing.

2. Use the System Monitor to netboot this node. The node should boot over the network and startup the network boot image from its boot/install server.

3. Open a read console for the node so you can monitor the boot process. Issue:

   s1term *frame_number node_number*

   When the node reaches the main installation panel, close the read console by issuing:

   <Ctrl-c>

   If node LED stays at the same number for longer than two minutes, there may be a hardware problem. In this case, contact IBM support.

4. Open a write tty for the node by issuing:

   s1term -w *frame_number node_number*

5. Answer the prompts to request a mount of the root volume group. A maintenance shell will start.

6. Inspect system files, starting with any that may have been changed recently. A good starting place is /**etc**/**inittab**.

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Chapter 16. Diagnosing IP Routing Problems

Ensure that the routing tables on the nodes accurately reflect the network. If they do, commands specified in **script.cust** should run correctly with all permissions and routes available.

Issue the following AIX commands to check the routing:

- To display network statistics and routing, enter:

  ```
  netstat -nr
  ```

- To see the routing to a specific point, enter:

  ```
  traceroute IP_address | host_name
  ```

IP Source Routing

Note that the **hats** script, which controls the operation of the Topology Services subsystem, issues the **no -o nonlocsrcroute=1** command. This command enables IP source routing. Do **not** change this setting, because the Topology Services subsystem requires this setting to work properly. If you change the setting, the Topology Services subsystems and a number of other subsystems that depend on it will no longer operate properly.

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Chapter 17. Diagnosing Print Problems

Note that the print management function, previously packaged with PSSP, is no longer available in PSSP 2.3. Nodes in an SP system running releases of PSSP prior to PSSP 2.3 can still use Print Management and should refer to the level of documentation appropriate for that PSSP release. For nodes running PSSP 2.3, you can choose to use the Printing Systems Manager packaged with AIX.

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Chapter 18. Diagnosing Devices Including the Hard Disk

Symptom	Recovery
Problems with devices, including the hard disk	Action 1. Boot a Node in Diagnostic Mode

Action 1. Boot a Node in Diagnostic Mode

You can boot a node from Ethernet network in diagnostic mode when you want to run diagnostics on any device, including the hard disk, attached to that node. When a node is booted in diagnostics mode, it brings up the diagnostics menu, just as if the **diag** command were issued from AIX. But, because the hard disk of the node is not used as the boot device, you can format the hard disk, certify, diagnose, and download microcode.

Caution: Formatting destroys all data on that disk.

To boot a node in diagnostics mode, use the **spbootins** command. For example, to boot node 12 in diagnostics mode, issue:

```
spbootins -r diag -l 12
```

The **diag** parameter of the **-r** flag is valid only on PSSP 2.1 and higher level systems. If you are running on a system with system partitions, the boot/install server for the node to be diagnosed must be in the PSSP 2.1 or higher system partition.

After the **spbootins** command has been executed, the next time the node is network booted, it will boot using the diagnostic image served over the network. The tty console will open on the display and you will be able to select actions as in the AIX **diag** command. See *AIX Version 4.2 Commands Reference* for a full description of the **diag** command.

A node in Diagnostic mode will NFS mount /**usr** from the boot/install server for use by the diagnostic image on the node. If device support is not present in the /**usr** file system of the boot/install server, the device will not be supported by diagnostics on the node.

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Chapter 19. Verifying System Management Installation

PSSP includes verification tests you can run to check installation of this software. You must be the root user to execute the verification test script. You can invoke the system management verification test on the control workstation from SMIT by selecting SSP System Management on the 9076 SP Installation/Configuration Verification menu.

Alternatively, you can invoke it from the command line by entering

```
/usr/lpp/ssp/bin/SYSMAN_test
```

When you invoke the verification test from the control workstation, it uses the **dsh** command to execute on all responding nodes. **SYSMAN_test** issues a message if one or more nodes are not tested. You can test a single node by executing the script on that node directly by local login or using **dsh**.

Verification Test Output

SYSMAN_test has three output modes: normal, verbose, and quiet. In all cases the full log of test activity is stored in **/var/adm/SPlogs/SYSMAN_test.log** (or a user-specified alternative log file). Each node's log file is stored locally on the node. In normal mode the test displays all error messages and a summary message reporting success or failure, grouped by node. In verbose mode, the output includes all information recorded in the log files. In quiet mode, only the success or failure message appears. You must inspect the log files to see the errors that occurred.

The system management verification SMIT log that follows contains a sample log showing one failing node.

```
HOST: tserv11.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: 0037-031 The xntpd daemon is not running, but the ntp option was configured
SYSMAN_test: Verification failed. The number of errors found was 1

SYSMAN_test: Executing test on all active nodes

r05n11.hpssl.kgn.ibm.com: r05n11.hpssl.kgn.ibm.com: Connection timed out
dsh:  5025-509 r05n11.hpssl.kgn.ibm.com rsh had exit code 1
HOST: r05n01.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n03.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n05.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: 0037-005 Required ntp entry missing from /etc/services
SYSMAN_test: 0037-002 File /etc/rc.ntp does not exist
SYSMAN_test: 0037-003 Directory /etc/auto does not exist
SYSMAN_test: 0037-003 Directory /etc/amd does not exist
SYSMAN_test: 0037-028 /u should not be linked when using automounter
SYSMAN_test: 0037-031 The automount daemon is not running, but the Automount option was configured
SYSMAN_test: 0037-005 Required supfilesrv entry missing from /etc/services
SYSMAN_test: 0037-002 File /var/sysman/supper does not exist
SYSMAN_test: 0037-002 File /var/sysman/file.collections does not exist
SYSMAN_test: 0037-002 File /var/sysman/etc/sup does not exist
SYSMAN_test: 0037-002 File /var/sysman/etc/supfilesrv does not exist
SYSMAN_test: 0037-002 File /var/sysman/etc/supscan does not exist
SYSMAN_test: 0037-003 Directory /var/sysman/etc does not exist
SYSMAN_test: 0037-003 Directory /var/sysman/logs does not exist
SYSMAN_test: 0037-003 Directory /var/sysman/sup does not exist
SYSMAN_test: 0037-003 Directory /var/adm/acct/nite does not exist
SYSMAN_test: 0037-003 Directory /var/adm/acct/sum does not exist
```

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```
SYSMAN_test: 0037-003 Directory /var/adm/acct/fiscal does not exist
SYSMAN_test: 0037-002 File /var/adm/acct/nite/jobcharge does not exist
SYSMAN_test: 0037-005 Required acct/startup entry missing from /etc/rc
SYSMAN_test: 0037-004 Directory /var/adm/acct was not exported
SYSMAN_test: Verification failed. The number of errors found was 21

HOST: r05n07.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n09.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n10.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n12.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n13.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n14.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n15.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded

HOST: r05n16.hpssl.kgn.ibm.com
------------------------------
SYSMAN_test: Verification succeeded
SYSMAN_test: The number of nodes that were not tested is 1
SYSMAN_test: The total number of errors found was 22
```

What System Management Verification Checks

This test is intended to verify that the PSSP software on the control workstation and nodes and the configuration of the system management facilities completed normally. Since those activities, for the most part, do not result directly in the establishment of testable user interfaces, the verification test concentrates on verifying that various objects relating to node installation and configuration are in the expected state.

The following tables show the key objects that are tested by **SYSMAN_test**. Some objects need to be tested only on the control workstation, some on boot/install servers, some on /**usr** servers, some on /**usr** clients, and others on all SP nodes.

Objects Tested on the Control Workstation Only

Table 17. Objects Tested on Control Workstation Only

Object	Verification
CMI SMIT stanzas	Defined in ODM
/etc/SP (directory)	Created
install images	Exported
/.klogin	Entry for each node
nfs (daemon)	Active

Objects Tested on the Control Workstation and Boot/Install Servers

Table 18. Objects Tested on Control Workstation and Boot/Install Servers

Object	Verification
/etc/services	tftp, bootpc, bootps
/etc/inetd.conf	tftp, bootps, instsrv
netinst user	Defined, home directory and files
install image	Exported
bootp_response	Set to disk for clients
tftpd	Daemon running
install_info	File exists for each client
config_info	File exists for each client
net.image file	Link exists for each client
/.klogin	Entry exists for client
/etc/bootptab	Entry exists for client
/etc/exports	Client access to images
install image	Each client's image available

Objects Tested on all SP Nodes (not the Control Workstation)

Table 19. Objects Tested on SP Nodes

Object	Verification
Node number	Exists in ODM
server_name file	Exists
/etc/hosts	Contains server_name
/.klogin	Contains CW and its boot-install server entries

Objects Relating to Optional System Management Services

These are objects Relating to Optional System Management Services that are tested on all SP nodes and the control workstation.

Table 20. Optional System Mgmt Objects Tested	
Object	**Verification**
/etc/ntp.conf	Exists, content matches config option
xntpd daemon	Running or not
supfilesrv daemon	Running or not
crontab	Set for filec updates or not
/etc/inittab	Set up for filec or not
/etc/services	Set up for filec or not
supman	User defined for filec or not
Predefined file collections	Exist or not
Admin SMIT stanzas	Installed in ODM or not
Svcs.daemons	Contains entries for selected options
Automounter maps	In user.admin if automounter used
Automount	Daemon running or not
sp_passwd	Linked from /bin/passwd or not
pmswitch	Links from print commands or not
Print id	Defined and in password file or not
pmbec	Permissions set appropriately if exists
acct	Directories and files set up or not
crontab	Accounting entries added or not
Jobcharge	File matches SDR attribute if reqd
/etc/exports	Mount and root access for acct master if reqd

Additional Tests

The following table shows the additional tests that are performed to verify the functionality of System Management services.

Table 21. Additional System Mgmt Tests	
Service	**Verification**
ntp	Execute a **xntpdc -l** command
Automount daemon	Execute a **ps -e | grep automount** command
filec	Execute a **supper where** command

Interpreting the Test Results

If you find that all information was entered correctly, the tests that **SYSMAN_test** performs should never fail. If errors are reported in the log files, first review the log files created by the various installation steps and use the System Monitor as recommended to review the hardware configuration information. Use the SMIT menus that display SP configuration and customization data.

If you find no erroneously entered information or incorrect procedures, you should report the error to IBM, as an error in either the installation/configuration process or in the test itself (the error indication could be spurious). In some cases, for example a missing directory or file, you may want to try to manually correct the problem as a circumvention. Nevertheless, it should still be reported to IBM as a possible defect.

Chapter 20. Producing a System Dump

Symptom	Recovery
Nodes do not respond or system crashes	Action 1. Produce a System Dump Action 2. Verify the System Dump

Action 1. Produce a System Dump

When your nodes do not respond or when your system crashes, a system dump may help you determine the cause of the problem. A system dump contains a copy of the kernel data on the system at the time of the crash. This section explains how to produce a dump, verify it, copy the dump to tape, and send the tape to IBM.

In some cases the system produces a dump automatically. If the system senses a fatal condition, it usually dumps automatically to the primary dump device and puts flashing **888** in the node's three-digit display.

Attention

Do not initiate a system dump if the node's three-digit display is **888**. If you initiate a dump, you will overwrite the dump taken at the time of the problem.

Instead, proceed to “Action 2. Verify the System Dump” on page 106.

Dump Methods

There are several ways you can produce a system dump. Some of the methods work with all configurations and others do not. Each method explained here includes this configuration information.

Note

Use the System Monitor to operate the system controls. You can reset the node or put it in service mode either from the *Node Front Panel* or the *Global Commands* window.

Dump to the Primary Dump Device

Choose one of these methods to produce a dump on the primary dump device.

Method 1: This method works for all system configurations.

Set the key mode switch to the Service position and press the Reset button once.

Method 2: This method can only be done from a directly-attached keyboard. It cannot be done from a **tty** connection.

Set the key mode switch to the Service position and, while holding the Ctrl and Alt keys, press the 1 on the numeric key pad.

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Method 3: This method works for all system configurations, if the system is responding to commands.

Login as **root** and enter:

```
sysdumpstart -p
```

Dump to the Secondary Dump Device

Choose one of these methods to produce a dump on the secondary dump device.

Note

If the secondary dump device is a removable media device, such as a tape or diskette drive, make sure that the medium is in the device.

Method 4: This method can only be done from a directly-attached keyboard. It cannot be done from a **tty** connection.

Set the key mode switch to the Service position and, while holding down Ctrl and Alt keys, press the 2 on the numeric key pad.

Method 5: This method works for all system configurations, if the system is responding to commands.

Login as **root** and enter:

```
sysdumpstart -s
```

Action 2. Verify the System Dump

You may have a system dump because you initiated it yourself or because the system produced one automatically. In either case, follow these steps to verify that the system dump was successful and that the information it contains is useable.

1. Record the three-digit codes.
   - If the system dumped automatically, the three-digit display will show flashing **888**. Press Reset repeatedly until **888** displays again and write down each three-digit code that is displayed. The last code before **888** displays again indicates if the dump was successful. Check the dump code status in the next table for more information.
   - If you initiated the dump yourself, the three-digit code that is displayed indicates if the dump was successful. Check the dump code status in the next table for more information.

Three-digit code	Meaning
0c0	The dump completed successfully.
0c4	The dump device was too small but the dump may still be usable. If zero bytes are written and 0c4 is displayed, it means the dump device was large enough but the system was hung and not able to initiate dump.
0c5	The dump device was not accessible. No dump was taken.
0c6	Prompts you to make the secondary dump device available.
0c8	No dump device is defined.
0c9	The dump is in progress. Wait for completion.

2. Return the key mode switch to "normal" and re-IPL. This will allow the last error log entry stored in NVRAM to be placed in the error log. (See "Effect of Not Having a Battery on Error Logging" on page 6)
3. Log in as **root**.
4. Verify the dump and the dump device by entering:

   ```
   sysdumpdev
   ```

   This should return something like:

   ```
   primary              /dev/hd7
   secondary            /dev/sysdumpnull
   ```

   Note the primary dump device name, and substitute it for /**dev**/**hd#** in the following steps.
5. Verify the usability of the dump by entering:

   ```
   crash /dev/hd#
   ```

   This should return:

   ```
   Using /unix as the default namelist file.
   Reading in symbols.......................
   ```

   - If you get the message: "`ATTENTION: dumpfile does not appear to match namelist`", either the dump did not take place or the /**unix** file does not match the dump that was in the dump device.

     Enter **q** to quit the **crash** command.

     The dump file is not useful. Do not continue with these steps and do not send the dump to IBM.
   - If messages are not displayed, proceed with the next step.
6. Enter the **errdead** command to extract the error records from the /**dev**/**error** buffer and place them in the error log:

   ```
   /usr/lib/errdead /dev/hd#
   ```
7. When you see the > prompt, enter:

   ```
   stat
   ```

   It produces a status report similar to this sample:

```
sysname:   AIX
nodename:  journey
release:   2
version:   3
machine:   000052643100
time of crash:  Sun Jan 24 19:18:53 1993
age of system:  18 day, 1 hr., 29 min.
```

- If the **time of crash** in the output approximately matches the time the system crashed, the dump is sufficient for analysis. Continue with the next step.
- If the **time of crash** in the output approximately does not match the time the system crashed,

  Enter **q** to quit the **crash** command.

  The data is not useful. Do not continue with these steps and do not send the dump to IBM.

8. Enter:

   ```
   trace
   ```

   Look for a trace report similar to this sample:

   ```
   STACK TRACE:
      .m_freem ()
      .soreceive
      ._recv
      .recv
   ```

   Enter **q** to quit the **crash** command.

Gather the dump and other **snap** or log information for IBM Software Service. Contact your local service representative or call IBM Software Support to open a Problem Management Record as explained in “Getting Help From IBM” on page 3.

Chapter 21. Diagnosing IBM Virtual Shared Disk Problems

Symptom	Recovery
Buddy Buffer Mismatch	Action 1. Recover From a Buddy Buffer Mismatch
EMSGSIZE Error	Action 2. Fix EMSGSIZE Error on a Running VSD System

Action 1. Recover From a Buddy Buffer Mismatch

When you define Virtual Shared Disks you should specify the same max_buddy_buffer_size for both the client nodes and the server nodes. A buddy buffer mismatch could also come about if you redefine Virtual Shared Disks, or migrate nodes to another software level or partition.

If the request size for data on the client is greater than the max_buddy_buffer_size on the server, the I/O request can fail and return the system error code, EMSGSIZE.

If you receive this error code, compare the max_buddy_buffer_size on all nodes with Virtual Shared Disks. If there is a mismatch do one of the following sets of steps.

- You can postpone stopping your Virtual Shared Disks by following "Action 2. Fix EMSGSIZE Error on a Running VSD System."
- To make a permanent correction, follow the steps in "A Permanent Fix For The EMSGSIZE Error."

Note: Fixing this error permanently is a disruptive change.

Action 2. Fix EMSGSIZE Error on a Running VSD System

To recover from the EMSGSIZE error without disrupting your Virtual Shared Disks, do the following:

1. Issue the **vsdnode** command from the control workstation or use the **vsdnode_dialog** SMIT panels to change the max_buddy_buffer_size.
2. Issue the **ctlvsd** –**M** command from the node with the smallest max_buddy_buffer_size size. This change may degrade your performance until you reconfigure the Virtual Shared Disk

This change is in effect until you reboot the changed node or until you do the steps in "A Permanent Fix For The EMSGSIZE Error."

A Permanent Fix For The EMSGSIZE Error

This step requires that you stop the Virtual Shared Disks. Note that is a permanent fix.

1. Suspend all Virtual Shared Disks
2. Stop all Virtual Shared Disks
3. Unconfigure all Virtual Shared Disks
4. Update the max_buddy_buffer_size values on the nodes with the smaller max_buddy_buffer_size specifications. Issue the **vsdnode** command or the

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SMIT panels to make the change. (Making this change has no effect on a running system.)
5. Configure the Virtual Shared Disks
6. Move the Virtual Shared Disks to the active state

See *IBM Parallel System Support Programs for AIX: Administration Guide* for more information. See *IBM Parallel System Support Programs for AIX: Command and Technical Reference* for complete Virtual Shared Disk command descriptions.

Using errpt for Virtual Shared Disk Diagnosis

The following table lists the Virtual Shared Disk Error Log templates. To see all the templates for a specific error type, starting with the most recent, use the command:

errpt -aj *template_ID_number*

Table 22. Virtual Shared Disk errpt template IDs

name	ID_number	Reason
ERRID_VSD_CALL_ER	ea97c090	VSD error occurred
ERRID_VSD_BAD_REQUEST	63b3bcf9	VSD request has been dropped
ERRID_VSD_ERROR_ER	9f40f6c5	Error satisfying an Virtual Shared Disk request
ERRID_VSD_GENERAL_UN	891f14c9	Unexpected Virtual Shared Disk error occurred

Some of these errors are transitory in effect even though they are recorded in the Error Log as PERM. When an Virtual Shared Disk attempts to send or read data but cannot because of a resource constraint, that failed attempt is recorded as a permanent error. You can safely ignore these errors if they are few, infrequent, and you have suffered no performance problems. If, however, you see that there are many errors, the errors are clustered on only one node, or the errors are associated with performance problems, then you should investigate further.

- The **Resource Name** is **vsdd**.
- The **DETECTING MODULE** tells where the error occurred.
- The **RETURN CODE** gives more information about the error.

Follow the **Recommended Actions** or use the **User Causes** for more information.

The example following is a general error. It gives no indication of the severity of the error.

```
VSD_GENERAL_UN
IDENTIFIER: 891F14C9
Date/Time:       Thu Jun 23 10:10:15
Sequence Number: 1365
Machine Id:      000204315700
Node Id:         k43n09
Class:           S
Type:            UNKN
Resource Name:   vsdd
Description
SOFTWARE ERROR
Probable Causes
SUBSYSTEM
User Causes
SERVER IS SATURATED
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Failure Causes
SEE DETAILED DATA
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Detail Data
DETECTING MODULE
LPP=PSSP,Fn=vsdd.c,SID=SID,L#=235
RETURN CODE
```

The following template is created if an error causes the VSDD to drop a request.

```
LABEL:  VSD_ERROR_ER
IDENTIFIER: 9F40F6C5
Date/Time:       Thu Jun 23 10:10:15
Sequence Number: 1364
Machine Id:      000204315700
Node Id:         k43n09
Class:           S
Type:            PERM
Resource Name:   vsdd
Description
REQUEST PROCESSING ERROR
Probable Causes
SUBSYSTEM
User Causes
VSD DRIVERS ARE NOT CONSISTENT
INVALID DISK REQUEST
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Failure Causes
UNEXPECTED RETURN CODE...SERVICE CALL
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Detail Data
DETECTING MODULE
LPP=PSSP,Fn=vsdd.c,SID=SID,L#=234
RETURN CODE
function name: reason
```

The Virtual Shared Disk places the following entry in the Error Log if the vsdd drivers receive a bad request as a server or as a server's reply.

```
LABEL:  VSD_BAD_REQUEST_UN
IDENTIFIER: 63B3BCF9
Date/Time:       Thu Jun 23 10:10:15
Sequence Number: 1363
Machine Id:      000204315700
Node Id:         k43n09
Class:           S
Type:            UNKN
Resource Name:   vsdd
Description
DETECTED INVALID REQUEST/CONTENT
Probable Causes
SOFTWARE DEVICE DRIVER
BUDDY BUFFER SHORTAGE
User Causes
SERVER IS SATURATED
CPU / DMA PAGE CONFLICT
Recommended Actions
DETERMINE IF BUDDY BUFFERS POOL IS LOW
IF HSD IS USED, USE 4096 BYTE ALIGNED REQUESTS
Failure Causes
DEVICE DRIVER ERROR.
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Detail Data
DETECTING MODULE
LPP=PSSP,Fn=vsdd.c,SID=SID,L#=233
RETURN CODE
function name: reason
```

The following is inserted in the Error Log if the Virtual Shared Disk driver fails to process a request because a service call had failed, for example **malloc()** failed because there was no memory.

```
LABEL:  VSD_CALL_ER
IDENTIFIER: EA97C090
Date/Time:       Thu Jun 23 10:10:15
Sequence Number: 1362
Machine Id:      000204315700
Node Id:         k43n09
Class:           S
Type:            PERM
Resource Name:   vsdd
Description
SERVICE CALL FAILED
Probable Causes
SUBSYSTEM
User Causes
SERVICE CALL CANNOT COMPLETE FOR
Recommended Actions
VERIFY SYSTEM CONFIGURATION IS VALID
Failure Causes
UNEXPECTED RETURN CODE...SERVICE CALL
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Detail Data
DETECTING MODULE
LPP=PSSP,Fn=vsdd.c,SID=SID,L#=232
RETURN CODE
(rc=nnn) function name: service
```

The following Error Log entry is written if Virtual Shared Disk could not get an mbuf cluster from the IP send pool (communications pool shortage).

```
LABEL: VSD_CALL_ER
IDENTIFIER: EA97C090
Date/Time:       Fri Mar  1 08:11:51
Sequence Number: 255
Machine Id:      000245375700
Node Id:         k7n11
Class:           S
Type:            PERM
Resource Name:   vsdd
Description
SERVICE CALL FAILED
Probable Causes
SUBSYSTEM
User Causes
SERVICE CALL CANNOT COMPLETE FOR
Recommended Actions
VERIFY SYSTEM CONFIGURATION IS VALID
Failure Causes
UNEXPECTED RETURN CODE...SERVICE CALL
Recommended Actions
PERFORM PROBLEM DETERMINATION PROCEDURES
Detail Data
DETECTING MODULE
LPP=PSSP,Fn=todo.c,SID=1.29,L#=601
RETURN CODE
GetCommAdapterBuffer: IFIOCTL_MGET(): send pool shortage
```

Using the VSD_ROLLBACK File

Both the **createvsd** and **createhsd** commands create vsd_rollback files in the **/usr/lpp/csd/vsdfiles** directory on the control workstation. At the same time, the nodes specified in the **createvsd** or **createhsd** command create local vsd_rollback files in the **/usr/lpp/csd/vsdfiles** directory.

The vsd_rollback files contain sub-commands executed on the control workstation and nodes. Most lines begin with either "OK" or "Fail". The second field separated by a colon ":" is the node number. Node 0 represents the control workstation. The third field is the command and operands.

If the **createvsd** and **createhsd** commands successfully create new vsds and hsds, these vsd_rollback files will be marked "COMMIT" at the end. If the commands fail at the middle of creation, you should review these rollback file to find which step and which command failed. If there is no error message saved in the rollback files, you can try the failed command on the failed node to obtain more information regarding the failure of the command.

For example, assume **importvg** failed on the secondary node 4. You could logon node 4 to read the vsd_rollback file and run **lspv** to see if the **/usr/lpp/csd/sysctl/doimportvg.perl** command correctly invoked the right command.

Or, assume you forgot to configure the twin-tailed disks on the secondary node and there was no PV_ID with those disks. After configuring the disks on the secondary node, you can rerun the failed **createvsd** command on the control workstation again.

The **createvsd** and **createhsd** commands use vsd_rollback files to undo those operations on both the control workstation and vsd server nodes, if these vsd_rollback files are not committed. In other words, you do not need to manually undo what the failed command has done. However, if you have undone what the command had done previously, you should edit the vsd_rollback file to remove

those correlative lines starting with "OK". Otherwise, **createvsd** and **createhsd** will fail to do the rollback.

Sometimes, you cannot get rollback to work because the environment has been changed. Or the vsd_rollback files are left from a long time ago. In this case, you should remove these rollback files before issuing the **createvsd** or **createhsd** command.

Note that **removevsd** and **removehsd** do not support rollback.

If **createvsd**, **createhsd**, **removevsd**, or **removehsd** fails, you may have to use LVM commands or VSD commands to manually fix the problem. In general, you should follow these steps:

1. Use **mkvg** to create a local VG on the VSD server node.
2. Use **mklv** to create a logical volume on the server node.
3. If this is a twin-tailed VSD:
   a. Issue **chvg** to specify the vg will not be automatically varyon, and run varyoffvg on the primary node.
   b. Issue **exportvg**, **chvg**, and **varyoffvg** on the secondary node.
   c. Issue **varyonvg** on the primary node.
4. On the control workstation (or the VSD server node if ssp.csd.cmi is installed), issue **vsdvg** to create VSD global volume group.
5. Issue **defvsd** to define VSD.
6. After defining the underlying VSDs, issue **defhsd** to define HSDs.

To remove a VSD, follow these steps:

1. Issue **suspendvsd**, **stopvsd**, and **ucfgvsd** to unconfigure the VSD on all VSD nodes.
2. Issue **undefvsd** to remove its definition in the SDR and devices on the VSD nodes.
3. If a VSD is part of an HSD, issue **undefvsd** to remove its definition in the SDR and devices. Use **ucfghsd** and **undefhsd** to remove HSD definition before running **ucfgvsd** and **undefvsd**.

Using createvsd and RVSD

It is better to keep VSD dormant when running **createvsd**. In order to update ODM and LVM database in the secondary node, the logical volume group must be imported on the secondary node. This requires you to varyoff the logical volume group on the primary node. Since the associated logical volume is opened when a VSD is moved to ACTIVE state, the VSD must be moved to suspendvsd to allow the logical volume group which contains the associated logical volume to be varyoff. Therefore, it is better to keep the RVSD inactive to avoid vsd states to be automatically changed when any membership changes in the SP system. If RVSD is inactive, you need to manually run varyonvg on the primary node if the volume group is exist.

Another way to createvsd avoiding disabling RVSD is to use **-x** option in **createvsd** and **createhsd**. In this case, **createvsd** will not import twin-tailed volume group to

the secondary node nor varyoffvg on the primary node.. Remember, however, to manually apply these steps described previously to make sure the secondary node will be able to update LVM information to the ODM. Otherwise, it might slow down the recovery process in the failure over time since the RVSD will run exportvg and importvg at takeover time when it discovers disk time stamp are not same at the primary node and the secondary node.

Both **vsdchgserver** and RVSD might move the tail from one server node to another. If I/O with AIX EIO error code, it might be due to the bad connection of the cable. **vsdchgserver** will flip the primary and secondary nodes. The system administrator should issue **vsdatalst -g** to make sure that the current primary node is the same as the desired primary node. If they are do not match, **createvsd** will fail to mklv on the primary node.

Chapter 22. Diagnosing 604 High Node Problems

This section provides information on:

- 604 high node characteristics, including:
  - Addressing power and fan failures in the 604 high node
  - Rebooting the 604 high node after a system failure
- Error conditions and performance considerations
- Using SystemGuard and BUMP programs

604 High Node Characteristics

The 604 high node operation is different from other nodes in several areas:

- A power feature is available which adds a redundant internal power supply to the node. In this configuration, the node will continue to run in the event of a power supply failure. Error notification for a power supply failure is done through the AIX Error Log on the node.
- The cooling system on the node also has redundancy. In the event that one of the cooling fans fails, the node will continue to run. Error notification for a power supply failure is done through the AIX Error Log on the node.
- If a hardware related crash occurs on the node, SystemGuard will re-IPL the node using the **long** IPL option. During **long** IPL, some CPU or memory resources may be deconfigured by SystemGuard to allow the re-IPL to continue.

Error Conditions and Performance Considerations

You need to be aware of the following conditions that pertain to the unique operation of this node:

- An error notification object should be set up on the node for the label **EPOW_SUS**. The **EPOW_SUS** label is used on AIX Error Log entries that may pertain to the loss of redundant power supplies or fans.
- If the node is experiencing performance degradation, you should use the **lscfg** command to verify that none of the CPU resources have been deconfigured by SystemGuard if it may have re-IPLed the node using the **long** IPL option.

Using SystemGuard and BUMP Programs

SystemGuard is a collection of firmware programs that run on the bringup microprocessor (BUMP). SystemGuard and BUMP provide service processor capability. They enable the operator to manage power supplies, check system hardware status, update various configuration parameters, investigate problems, and perform tests.

The BUMP controls the system when the power is off or the AIX operating system is stopped. The BUMP releases control of the system to AIX after it is loaded. If AIX stops or is shut down, the BUMP again controls the system.

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To activate SystemGuard, the key mode switch must be in the service position during the standby or init phases. The standby phase is any time the system power is off. The init phase is the time when the system is being initialized. The PSSP software utilizes SystemGuard IPL flags such as the **FAST IPL** default. The following example shows how to modify the **FAST IPL** flag.

1. Open two windows: one for invoking **hmcmds** and one for the **s1term** tty console for the 604 high node.
2. Invoke **hmcmds** to power off the 604 high node and set the key switch to **Service**:

   ```
   hmcmds -G off frame:node
   hmcmds -G service frame:node
   ```

3. Open the tty console in write mode for the target 604 high node:

   ```
   s1term -G -w frame:node
   ```

   OR

   ```
   spmon -o node_number
   ```

4. Working with the tty console, press <**Enter**> and make sure the BUMP prompt (>) appears in the window. Invoke **sbb** in the tty console to bring up the Stand-By Menu.
5. Select **1** to check the current flag settings on the tty console.
6. If the flag setting for **FAST IPL** is **disabled**, enter **5** to change the value form **disabled** to **enabled**
7. Press **x** a few times to exit out of Stand-By menu on tty console and close the console.
8. Invoke **hmcmds** to power on the 604 high node and set the key switch to **Normal**:

   ```
   hmcmds -G on frame:node
   hmcmds -G normal frame:node
   ```

9. The 604 high node will now initialize through the **BUMP** interface and will IPL the 604 high node using the **FAST IPL**, bypassing the low-level BUMP diagnostics.

Chapter 23. Diagnosing Dependent Node Configuration Problems

The implementation of *dependent* nodes for PSSP 2.3 deals directly with GRF IP Routers, and, therefore, configuration problems with a dependent node may be caused by either problems on the GRF or on the SP. This chapter helps you diagnose your problems and determine how to correct configuration problems on the SP and on the GRF.

SP Configuration Diagnosis

The first step in diagnosing a dependent node problem is verifying that both the node and associated adapter have been properly configured and are operating correctly. To do this, perform steps 1, 2, and 3 below. You can optionally perform step 4.

1. Issue the following command to verify the definition of the extension node:

   ```
   splstnodes -t dependent node_number reliable_host_name
   management_agent_hostname extension_node_identifier snmp_community_name
   ```

2. Issue the following command to verify the definition of the extension node adapter:

   ```
   splstadapters -t node_number netaddr netmask
   ```

3. Issue the following command to verify that the extension node is connected to the switch:

   ```
   SDRGetObjects switch_responds
   ```

   You should receive output similar to the following:

   ```
   node_number switch_responds autojoin  isolated     adapter_config_status
   1           0               0         0            css_ready
   3           0               0         0            css_ready
   4           0               0         0            css_ready
   5           0               0         0            css_ready
   6           0               0         0            css_ready
   7           0               0         0            css_ready
   ```

4. Use the Perspectives GUI to verify the definitions of the extension node and extension node adapter, and to verify that the extension node is connected to the switch.

   a. Issue **perspectives &** to bring up Perspectives as a background process.

   b.

      SELECT Hardware Perspective

      SELECT IP node

      The notebook associated with the node appears. Review the node information to ensure it is operating correctly.

Verify that these configuration parameters are correct. If you find errors here with any values other than the node number, use the **endefnode** and **endefadapter** commands to change those values. For more information on using these commands, see the *PSSP Command and Technical Reference*. If the node_number is incorrect, you have to remove the node_number and replace it

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with another node_number. To remove it, use the **enrmnode** command or the **enrmadapter** command. See the *PSSP Commands and Technical Reference* for more information on these commands.

The next step is to determine what state your dependent node is in on the SP Switch. Use the **SDRGetObjects switch_responds** command to determine this. Here is an example of the output from this command showing several Dependent Nodes in various states:

```
node_number  switch_responds autojoin  isolated  adapter_config_status
          1                0        0         0  not_configured
          2                0        0         0  css_ready
          3                0        0         0  micro_code_load_failed
          4                0        0         1  css_ready
          5                0        1         1  css_ready
          6                1        0         0  css_ready
```

An examination of each of these six samples and the state they are in will help to diagnose problems.

Dependent node 1, in the previous example, is the state that a newly defined dependent node will be in. This state means that the configuration is not complete and/or there is no communication via SNMP to the GRF. See the SNMP diagnosis section for more information on diagnosing and correcting SNMP communication problems.

Dependent node 2 is in the state that a dependent node would normally go to after its dependent adapter has been defined and the node has been reconfigured.

Dependent node 2 now shows the adapter_config_status is css_ready. This means that the configuration information has been delivered to and accepted by the GRF via SNMP. This node is ready to become active on the SP Switch network. If this reconfiguration was not successful, the adapter_config_status would either remain not_configured or become micro_code_load_failed, as seen with dependent node 3.

Dependent node 3's micro_code_load_failed adapter_config_status could also indicate that the GRF is still resetting the SP Switch Router Adapter in it's chassis and has not finished. This reconfiguration can take some time and should be checked again. If you suspect that your configuration information is not being transmitted via SNMP to the GRF properly, check that the SP Switch Router Adapter is in the same slot as defined in the adapter definition.

Dependent nodes 4 and 5 indicate nodes that are fenced and ready to be unfenced and brought onto the SP Switch network. The only difference is that dependent node 5 has autojoin turned on, and whenever a reconfigure of the SP Switch Router Adapter occurs in the GRF, this node will automatically unfence. Dependent node 4 will have to be unfenced manually by issuing the **Eunfence 4** command.

Finally, dependent node 6 indicates the active state of a properly configured dependent node. If you are unable to attain this state with a dependent node, and you cannot discover any SP related configuration or SNMP network related problems, then you will have to open an administrative telnet session to the GRF for diagnosing problems there.

GRF Configuration Diagnosis

More information pertaining to the diagnosis of problems with the GRF and the SP Switch Router Adapter can be found in the documentation that came shipped with the GRF and the SP Switch Router Adapter. This documentation should include:

- GRF Getting Started
- GRF Configuration Guide
- GRF Reference Guide
- SP Switch Router Adapter Configuration Guide

Some basic information about diagnosing problems with the SP Switch Router Adapter is included in the following section for ease of use, but you should also reference the documentation from the GRF.

Once you have exhausted configuration problems on the SP system, telnet to the GRF. To do this, you need the GRF system userid (with root privileges) and password. You can open a telnet session from any network terminal screen or from Perspectives **only if remote logins have been enabled for the GRF.** For more information about enabling remote logins on the GRF, see the *GRF Configuration Guide - Enable telnet access*. If you cannot remotely login, you can obtain local access to the GRF from its RS-232 terminal if the customer has elected to leave it hooked up (this terminal is only necessary for initial configuration).

After logging in with root privileges to the GRF, there are several GRF commands that are helpful in diagnosing problems. The first of these is the **grcard** command. Here is sample output from this command as run on a GRF 400 with 4 SP Switch Router Adapter cards installed:

```
# grcard -v
Slot    HWtype  State
----    ------  -----
0       DEV1_V1 held-reset
1       DEVI_V1 loading
2       DEV1_V1 dumping
3       DEV1_V1 running
```

The SP Switch Router Adapter is referred to as a DEV1_V1 media card to the GRF as you can see it listed under the HWtype column. Some of the common states that you may see this media card in on a GRF include the four from the example and can be described as:

loading

The media card is loading its configuration information. The SP Switch Router Adapter will remain in this state until configuration information from the SDR in the SP System is communicated to the GRF via SNMP. If your card never leaves this state, you should read the section later in this chapter about SNMP Configuration Diagnosis.

dumping

A media card that has been reset, or is failing, will dump its memory to a file before resetting if the MIB configuration field for this feature is turned on. By default, all SP Switch Router Adapter cards have this feature turned on. For more information on this feature see the GRF publications.

held-reset
This is the state that the SP Switch Router Adapter will be in if the **grreset -h** (discussed later) command has been issued on it, or if the card has been put in a reset state from the SP System with the **enadmin** command. For more information about the **enadmin** command, refer to the *PSSP Commands and Technical Reference*.

running
This is the normal active state of the SP Switch Router Adapter and what you should try to achieve.

Another useful command on the GRF is the **grreset** command. Use this command to reset the SP Switch Router Adapter on the GRF. When this is done, configuration information for the adapter is loaded from the control board on the GRF. It is like rebooting the adapter. For more complete information about the **grreset** command, see the *GRF Reference Guide*.

One last very useful command on the GRF that is useful in diagnosing problems on the GRF is the **grconslog** command. This command opens and displays the console log for the GRF. Here you can see all configuration and network activity on your GRF. The most useful method for running this command is to run **grconslog -pdf** to open the console log, display information with port and date stamps, and keep the log open in flow mode. Occasionally, the static file used for this log fills up, and it then wraps or opens a new file depending on how the system is configured. When this happens, it will appear that the flow mode of your console log hangs. When this happens, issue CTRL-C out of the console log and start it up again. For more information on this command, see the GRF publications.

The primary use of the **grconslog -pdf** command is to open the console log up and then issue commands from the SP System to see if they are indeed getting to the GRF and being acted upon. You can find more information on this in the SNMP Configuration Diagnosis section in this chapter.

SNMP Configuration Diagnosis

The following section will aid you in diagnosing communication problems which may occur between the SNMP Agent administering the dependent node (residing on the GRF node) and the SP Manager residing on the control workstation. You should run with tracing enabled for the SPMGR subsystem during a dependent node configuration.

When you configure a dependent node within an extension node class, you create attribute values in the SDR DependentNode class which are used by the SP SNMP Manager to communicate with the SNMP Agent on the GRF. These attributes are:

node_number
the node number for the dependent node

extension_node_identifier
the identifier assigned to the dependent node (this is the 2-digit slot number of the dependent node adapter on the GRF node)

management_agent_hostname
the fully qualified hostname of the node on which the SNMP Agent administering the dependent node resides. This is used to communicate with the GRF node. It must resolve to an IP address.

snmp_community_name
the SNMP community name placed within SNMP messages passed between the SNMP Agent and the SNMP SP Manager for authentication. This value must match the community name value configured on the SNMP Agent host for communicating with the SP Manager on the control workstation.

If the **node_number** is specified in error, the configuration data may get sent to the SNMP Agent administering the dependent node successfully. However. problems will occur when attaching the switch adapter to the switch network.

When you have completed the definition of the dependent node on the SP control workstation and have installed the SP Switch Router Adapter on the GRF, if the SDR *adapter_config_status* attribute value for the dependent node in the *switch_responds* class remains *configured*, then trap messages from the GRF node are not being processed successfully by the SNMP Manager on the control workstation. This can be caused by one of several problems:

1. If the **spmgr** subsystem trace file in the directory **/var/adm/SPlogs/spmgr** contains an entry indicating *init_io failed: udp port in use*, then the UDP port specified for service name **spmgrd-trap** in the **/etc/services** file on the control workstation is already in use. This error will also appear in an AIX error log entry written by the **spmgrd** daemon.

   Solution: change the UDP port number for the **spmgrd-trap** service to an unused port number. The GRF **snmpd** daemon's configuration file, **/etc/snmpd.conf** on the GRF, must also be updated to specify this same port number when sending trap messages to the control workstation. Both the **snmpd** daemon on the GRF and the **spmgr** subsystem on the control workstation must be restarted after this change is made.

2. If the **lssrc -ls spmgr** command response contains zeros for both the number of switchInfoNeeded traps processed successfully and the number processed unsuccessfully, then trap messages sent by the SNMP Agent on the GRF node are not being received by the SNMP Manager on the control workstation. Either the control workstation IP address or the UDP port number may have been specified in error in the **/etc/snmpd.conf** file on the GRF. The UDP port number associated with the control workstation in file **/etc/snmpd.conf** on the GRF must match the UDP port number specified for the the **spmgrd-trap** service in the **/etc/services** file on the control workstation.

   Solution: correct the erroneous value and restart the **spmgrd** daemon on the GRF and the **spmgr** subsystem on the control workstation.

3. If the **lssrc -ls spmgr** command response contains zeros for the number of switchInfoNeeded traps processed successfully and the number processed unsuccessfully is greater than zero, then trap messages sent by the SNMP Agent on the GRF are being received by the SNMP Manger on the control workstation but they are not being successfully processed. This may be the result of one of the following errors:

   a. If the **spmgr** subsystem trace file in directory **/var/adm/SPlogs/spmgr** contains an entry indicating *Dependent node* <*ext_id*> managed by the SNMP Agent on <grf_hostname> is not configured in the SDR - switchInfoNeeded trap ignored', then either the *extension_node_identifier* or the *management_agent_hostname* attribute value for the corresponding extension node in the SDR DependentNode class is wrong.

Solution: correct the bad attribute value.

b. If the **spmgr** subsystem trace file in directory /**var**/**adm**/**SPlogs**/**spmgr** contains an entry indicating *SDR attribute <attrname> in class <classname> for dependent node <ext_id>* has a null value for SNMP Agent on host <grf_hostname> or an entry indicating *SDRGetAllObjects() DependentAdapter failed with return code 4*, then required configuration value(s)ifier or are missing from the indicated SDR class.

Solution: supply the missing attribute value(s).

c. If the **spmgr** subsystem trace file in directory /**var**/**adm**/**SPlogs**/**spmgr** contains an entry indicating 'Dependent node <ext_id> managed by the SNMP Agent on host <grf_hostname> is configured with a bad community name - switchInfoNeeded trap ignored', then the *snmp_community_name* attribute value specified for the corresponding node in the SDR DependentNode class does ifier or not match the community name specified for the control workstation in the /**etc**/**snmpd.conf** file on the GRF. Note that if the ;pv.snmp_community_name attribute value is null, the community name to be specified in the GRF is documented in the Ascend documentation.

Solution: correct the community names in the /**etc**/**snmpd.conf** file on the GRF and/or the *snmp_community_name* attribute for the corresponding SDR DependentNode class so that they match.

Most SNMP-related configuration problems occurring when data is changed in the SDR after an initial configuration attempt, are detected by the configuration-related commands, and messages are issued to the operator. However, the following problems could occur following an attempt to reconfigure a dependent node after issuing either the **endefnode** or **endefadapter** command with the -r switch, or after selecting the reconfigure option from a smit extension node configuration panel, or after issuing an **enadmin** command:

1. A time_out occurs on the **enadmin** command (invoked internally from the SMIT panels, **endefnode**, and **endefadpter** commands). This could be caused by one of the following configuration problems:

   a. If the **spmgr** subsystem trace file in directory /**var**/**adm**/**SPlogs**/**spmgr** or the AIX error log contains an entry indicating '2536-007 An authentication failure notification was received from an SNMP Agent running on host <GRF_hostname> which supports Dependent Nodes', then the SDR *snmp_community_name* attribute value in the DependentNode class for the extension node contains a name which does not match the community name specified for the control workstation in the /**etc**/**snmpd.conf** file on the GRF.

   Solution: correct the community names in the /**etc**/**snmpd.conf** file on the GRF and/or the *snmp_community_name* attribute for the corresponding SDR DependentNode class so that they match.

   b. If no authentication error exists in either the trace file nor the AIX error log, then the value specified for the SDR *management_agent_hostname* attribute in the DependentNode class for the extension node must not be the correct fully qualified name for the GRF.

   Solution: correct the *management_agent_hostname* attribute value in the DependentNode class for the extension node.

Note: if the *extension_node_identifier* attribute value for an extension node is erroneously set to the id of another existing extension node on the GRF managed by another SP, then the results are unpredictable since two SNMP managers are trying to configure the same SP Switch Router Adapter.

Chapter 24. Diagnosing File Collections Problems

File Collections depends on several areas of the system to work properly, including the network, the appropriate ID being created and used, and entries in specific files. Depending on the type of problem you have, you may need to perform one or more of the following actions:

1. Verify the "supman" ID is in the /etc/passwd file with a password of "*" (second field). The asterick must be located in the /etc/passwd file and not in the /etc/security/password file.

   The ID must have the uid of 102 (third field). If you are using File Collections to distribute the /etc/password and other user management files, the supman ID must also belong to the security group. The ID may have been removed if **pwdck** was run and was set to remove passwords that are not valid.

   Run **service_config** to add the supman ID again.

2. Verify that the /etc/services file contains the following line:

   ```
   supfilesrv     8431/tcp
   ```

3. Verify the network is up and running properly.

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Chapter 25. SP-Specific LED Values

LED values generated by the SP Parallel System Support Program can be of two types: those that convey information and signal status, or those that indicate a problem. These are the SP-specific LED Values:

000 Information

Meaning: The node is in shutdown mode.

---

001 Information

Meaning: The initialization routine leads to a single user mode.

---

517 Information

Meaning: Mounting the /**usr** file system for this node.

---

762 Information

Meaning: Indicates that the configuration method is running for the TB3 adapter card.

---

980 Information

Meaning: Indicates that the configuration method is running for the TB0 adapter card.

83u Information

Meaning: Indicates that the configuration method is running for the TB2 adapter card.

00u – 99u Information

Meaning: Appears during installation to indicate the percentage of the **mksysb** image that has been installed.

99u Information

Meaning: The netinstall process for this node has completed.

---

c27 Information

Meaning: The boot device returned from the **bootinfo -b** command is not valid.

---

u00 Problem

Meaning: Invalid **bootp_response** specified in **install_info** file.
Action: Issue **setup_server** on the boot server and reboot the node.

---

u01 Information

Meaning: Getting the boot information

---

u02 Information

Meaning: Configuring the boot network

---

u03 Problem

Meaning: tftp of /**tftpboot**/<**node**>**.install_info** file from the boot/install server failed.
Action: Check to see if the **install_info** file exists on the boot/install server. Issue **setup_server** if it does not exist. If it exists, see Chapter 15, “Diagnosing Boot Problems”.

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u04 Information

Meaning: Expanding <node>.**install_info** file variables for use in **rc.boot**

---

u05 Problem

Meaning: tftp of **/usr/lpp/ssp/install/backup/config.bff** file failed.
Action: Check to see if the config.bff file is on the boot/install server. If it exists, see Chapter 15, “Diagnosing Boot Problems”.

---

u06 Information

Meaning: Starting to setup the display

---

u07 Information

Meaning: Exiting phase 1 network boot.

---

u20 Problem

Meaning: tftp of the **/usr/lpp/ssp/install/backup/dispdskt.bff** file failed.
Action: Check to see if the **dispdskt.bff** file is on the boot/install server. If it exists, see Chapter 15, “Diagnosing Boot Problems”.

---

u21 Information

Meaning: Reconfiguring the network

---

u22 Information

Meaning: Replacing the default network boot ODM cfgrules

---

u23 Information

Meaning: Issuing config manager (**cfgmgr**)

---

u24 Information

Meaning: Reconfiguring the network

---

u25 Information

Meaning: Issuing config manager again (**cfgmgr**)

---

u26 Information

Meaning: Configuring the console (**cfgcon**)

---

u30 Problem

Meaning: tftp of the **/usr/lpp/ssp/install/backup/instmaint.diskette** file failed.
Action: Check to see if the **instmaint.diskette** file is on the boot/install server. If it exists, see Chapter 15, “Diagnosing Boot Problems”.

---

u31 Information

Meaning: Restoring the files in the **instmaint.diskette** backup file.

---

u32 Information

Meaning: Configuring tape drives, if any.

u33 Problem

Meaning: Invoking **mk_autoinst_files** to create the files necessary to proceed with the automatic netinstall. Possible corruption of the **/usr/lpp/ssp/install/bin/config.bff** file.

Action: Issue `restore -Tvf /usr/lpp/ssp/install/backup/config.bff` on the boot/install server to see if the **mk_autoinst_files** file is in the backup file, **config.bff**. If it exists then, the data in the **/tftpboot/**<**node**>**.install_info** file must be corrupted. Issue `setup_server` on the boot/install server and reboot the the node.

---

u34 Information

Meaning: Exiting **prepare_auto_install** routine

---

u50 Information

Meaning: Beginning **rc.boot** phase 2 - get the boot information and expand the **install_info** variables.

---

u51 Information

Meaning: The node has been recognized as a uni-processor, and **bos.rte.up** is about to be installed.

---

u52 Information

Meaning: The node has been recognized as a high node, **bos.rte.mp** is about to be installed.

---

u53 Information

Meaning: Installing the **ssp.ha** feature on the node.

---

u54 Information/Problem

Problem: u54 is issued when the installation process invokes the AIX netinstall program bosmain to perform the install of the AIX image. If this LED remains for an extended period, there are two possible causes.

The first possibility is that the **setup_server** script could not determine the size of the image when it created the **/tftpboot/***node***.install_info** file. In this file, the **netinst_bosobj_size** variable contains the size of the image. Login to the boot/install server for this node and examine this file to see if the variable contains a number. If it does not contain a number, the installation is continuing, but we are unable to determine the installation percentage and u54 will be displayed until the installation is complete.

The second possibility is that the variable is a number and the installation has stopped because of problems with the boot/install server.

Actions: If the **netinst_bosobj_size** variable was not a number, either wait for the amount of time that it takes your image to install (image installation times depend on the size of the image) to see if it completes, or rerun **setup_server** on the boot/install server and verify that the **netinst_bosobj_size** variable was set properly prior to Network booting the node.

If the **netinst_bosobj_size** was a number, refer to Chapter 14, “Diagnosing Install Problems”.

u55 Problem

Problem: **bosboot** failed when creating a bootable image on a high node.
Actions: Because **bosboot** failed, the bootable image was not written to the IPL device, and the node cannot be booted in its present state. The node must be installed again. Possible causes of the boot failure are:

- The lppsource directory is not properly exported on the boot/install server.
- NFS is not running on the boot/install server.
- **bos.rte.mp** is not found in the lppsource directory on the boot/install server.

---

u56 Problem

Meaning: If the node is a /**usr** client, the /**usr** filesystem is mounted here. Possible problems with the mount.
Action: Check to see if the /**usr** filesystem is exported properly on the /**usr** server. The server and client addresses that are being used are documented in the boot servers /**tftpboot**/<*node name*>**.install_info** file (**usr_server_ip** and **usr_client_ip** variables). Verify that the server has exported the /**usr** filesystem to the client. Also verify that the nfs daemons: **mountd**, **rpc.lockd**, and **rpc.statd** are running on the server. The TCP/IP **inetd** and **portmap** daemons must be running as well.

If you find that required daemons are not running, restart the daemons on the server. Reboot the node to reinstall the system.

If you find that the lan the node is attempting to mount over is not the intended or expected interface, issue `splstdata -u` to list data /**usr** client information and `splstdata -b` to list data boot server information to determine the boot/install server and /**usr** server structure that is currently defined.

The **spbootins** command or the SMIT interface on the control workstation may be used to redefine this structure. Once the new definition is complete, reinstall the node.

---

u57 Information

Meaning: Restoring the <node>.**config_info** file.

---

u59 Information

Meaning: Configuring the node using the **config_node** script.

---

u60 Information

Meaning: Creating the files /**etc**/**ssp**/**server_name**, /**etc**/**ssp**/**server_hostname**, /**etc**/**ssp**/**reliable_hostname**, and /**etc**/**ssp**/**cw_name**.

---

u61 Problem

Meaning: tftp of the /**etc**/**SDR_dest_info** file from the boot/install server has failed. The tftp may fail if the /**etc**/**SDR_dest_info** file does not exist on the boot/install server or the permissions do not have read access for all.
Action: Check to see if the /**etc**/**SDR_dest_info** file is on the boot/install server. If it exists, see Chapter 15, “Diagnosing Boot Problems”.

u62 Information

Meaning: Creating the /**etc**/**firstboot** file. **rc.boot** tftp's the /**usr**/**lpp**/**ssp**/**install**/**config**/**script.cust** file from the boot/install server and executes it. This led comes from the beginning of this file.

---

u63 Problem

Meaning: tftp of the /**usr**/**lpp**/**ssp**/**install**/**config**/**script.cust** file from the boot/install server has failed. The tftp may fail if the **script.cust** file does not exist on the boot/install server or the permissions do not allow read access for all. For /**usr** clients, the u63 may indicate a portmap or NFS failure on the /**usr** server.

Action: Check whether the **script.cust** file is on the boot/install server. If it exists, see Chapter 15, “Diagnosing Boot Problems”. For /**usr** clients, verify that NFS and portmap resources are running on the /**usr** server. If not running, they can be started with **startsrc -g nfs** and **startsrc -g portmap**. Once NFS and the portmapper are running, the nodes hung at u63 need to have the install restarted. The easiest way is to do a network boot.

---

u64 Problem

Meaning: tftp of /**usr**/**lpp**/**ssp**/**install**/**config**/**rc.boot.config** from the boot/install server, and execution of **rc.boot.config**, failed. The tftp may fail if the **rc.boot.config** file does not exist or the permissions do not allow read access for all.

Action: Check to see if the **rc.boot.config** file is on the boot/install server. If it exists, see Chapter 15, “Diagnosing Boot Problems”.

---

u65 Information

Meaning: The install/customize/maintenance has been completed and the node is rebooting by issuing `shutdown -Fr`.

Action: You may open a console to check on the node or reboot the node.

---

u66 Information

Meaning: Setting clock on node

---

u67 Information

Meaning: Copying kerberos configuration file (/**etc**/**krb.conf**) from boot-server

---

u68 Information

Meaning: Copying kerberos realms file (/**etc**/**krb.realms**) from boot-server

---

u69 Information

Meaning: Copying kerberos server key file (/**etc**/**krb_srvtab**) from boot-server

---

u70 Information

Meaning: Beginning of **rc.boot** setup.

---

u71 Information

Meaning: Start of boot process for a network boot.

u72 Information

Meaning: Beginning of initialization for **rc.boot**.

u73 Information

Meaning: Copying ksrvutil program (/**usr**/**lpp**/**ssp**/**kerberos**/**bin**/**ksrvutil**) from boot-server

u74 Information

Meaning: Executing ksrvutil program (/**usr**/**lpp**/**ssp**/**kerberos**/**bin**/**ksrvutil**) to change server keys

u75 Information

Meaning: Copying rcmdtgt program (/**usr**/**lpp**/**ssp**/**rcmd**/**bin**/**rcmdtgt**) from boot-server

u76 Information

Meaning: Copying rsh (kshell client) program (/**usr**/**lpp**/**ssp**/**rcmd**/**bin**/**rsh**) from boot-server

u77 Information

Meaning: Executing rcmdtgt program (/**usr**/**lpp**/**ssp**/**rcmd**/**bin**/**rcmdtgt**) to get kerberos ticket

u78 Information

Meaning: Executing rsh to complete node processing on boot-server

u79 Information

Meaning: tftp of the files /**tftpboot**/**script.cust** and **tftpboot**/**tuning.cust** from the NIM Master.

u80 Information

Meaning: Installing the **ssp.clients** feature on the node.

u81 Information

Meaning: Installing the **ssp.basic** feature on the node.

u82 Information

Meaning: Installing the **ssp.sysctl** feature on the node.

u83 Information

Meaning: Installing the **ssp.sysman** feature on the node.

u84 Information

Meaning: Installing the **ssp.css** feature on the node.

u85 Information

Meaning: Installing the **ssp.jm** feature on the boot/install server.

u86 Information

Meaning: Creating the /**etc**/**firstboot** file on the node and running the /**tftpboot**/**tuning.cust** script.

u87 Information

Meaning: Running the **/tftpboot/script.cust** script on the node.

---

u88 Problem

Meaning: **rc.boot** has determined that the **bootp_response** for the node being installed is set to **disk**. The **/tftpboot/**<*node*>**.install_info** file (on the boot/install server) has the **bootp_response** field that was used by **rc.boot**. The **/etc/bootptab** file has this node enabled for a network boot. This is an invalid combination. The valid network bootp responses are install, customize, and maintenance.

Action: To check the bootp response issue `splstdata -b` on the control workstation. If this does not show **disk** as the bootp response, then issue `setup_server` on the boot/install server and reboot the node.

After running **setup_server** you can check the **/etc/bootptab** file to see if the node in question is commented out (the line with this node has a # in the first character).

---

u89 Problem

Meaning: The **/usr** client adapter field (**usr_client_adapter**) has an invalid value in it. The **usr_client_adapter** supported fields are Ethernet and Token Ring.

Action: Issue `splstdata -u` to determine the current value specified for the **/usr** client adapter that is selected.

Use the **spbootins** command or the SMIT interface on the control workstation may be used to redefine this value and reboot the node.

---

u90 Information

Meaning: Use the **bootinfo** command to get the boot information and initialize variable for rc.boot

---

u91 Information

Meaning: Gathering of boot information is complete.

---

u92 Information

Meaning: Determining the boot network information.

---

u93 Information

Meaning: Issuing **ifconfig** for the boot network.

---

u94 Information

Meaning: The **/usr** client network is not the boot network. Issuing **ifconfig** to configure the network to mount **/usr**.

---

u95 Information

Meaning: Boot network configuration is complete

---

u98 Information

Meaning: Starting **bosmain** for maintenance option.

---

u99 Problem

Meaning: Invalid **bootp_response** specified in **install_info** file.

Action: Issue **setup_server** on the boot/install server and reboot the node.

Network Installation Progress

When a network installation is in progress, the LED for the nodes involved show various values. These values indicate the installation stage. Since the node installation process can be long, it is hard to determine where you are in that process.

Table 23 lists the sequence of LED values a node goes through. This table is only a sample list of LED values, and a node may not show all values listed. Depending on the adapters installed on the node, there may be additional values displayed. The table also lists the approximate time, after you start to install a node, when the LED values may be shown. Since the elapsed time to reach a specific LED value can vary, you should use these times as a gauge to determine the installation progress of the node. The factors that can affect the actual time it takes a node to reach a specific LED value include the following:

- The number of nodes being installed
- The size of the network installation image you are using.
- The amount of traffic on the SP Ethernet
- The amount of work being conducted on the network installation node

Places in the node installation where a single LED value is displayed for an extended period of time are as follows:

1. c40
2. c54

These values are periods of high volumes of network traffic and are only a problem on a node when the value does not change for a very extended period of time. You can use Table 23 as a debugging tool when a node is stuck on a specific LED value.

Table 23 (Page 1 of 3). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
0:00		
	124	BIST started a CRC check on the OCS area of NVRAM.
	151	BIST started AIPGM test code.
	214	Power status register failed.
	219	Generating RAM POST bit map.
	291	Running standard I/O POST.
	200	Attempting IPL with key in secure position.
	102	BIST started following power-on reset.
	153	BIST started ACLST test code.
0:30		
	154	BIST started AST test code.
	100	BIST completed successfully; control was passed to IPL ROS.
	219	Generating RAM POST bit map.
	292	Running SCSI POST.
1:00		
	291	Running standard I/O POST.
	262	No keyboard connected to the system.
	260	Displaying information on the display console.
1:30		
	231	Attempting a normal mode IPL from Ethernet specified in IPL ROM.
2:30		

Table 23 (Page 2 of 3). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
	Blank	
	606	Running the **if_config** command to bring up network interface.
	610	Attempting to NFS mount a remote file system.
	299	IPL ROM passed control to the loaded program code.
	608	Attempting to tftp the **.info** file from client's SPOT server.
	612	Accessing remote configuration files.
	622	Returning control to the /**sbin**/**rc.boot** program.
	520	Running bus configuration.
	890	SCSI-2 differential fast/wide adapter.
	620	Updating special device files.
3:00		
	890	SCSI-2 differential fast/wide adapter.
	570	Configuring virtual SCSI devices.
3:30		
	622	Returning control to the /**sbin**/**rc.boot** program
4:00		
	811	Identifying or configuring processor complex.
	Blank	
	570	Configuring virtual SCSI devices.
	727	Identifying or configuring unknown asynchronous device.
	538	The configuration manager is invoking a configuration method.
	622	Returning control to the /**sbin**/**rc.boot** program.
	c40	Restoring configuration files.
8:00		
	c42	Extracting data from diskette.
	c33	Selecting a tty terminal attached to serial ports S1 or S2.
	c44	Initializing installation database with target disk info.
8:30		
	c46	Normal installation processing.
	Blank	
9:00		
	c50	Creating root volume group on target disks.
	c46	Normal installation processing.
10:30		
	c54	Installing either BOS or additional packages.
19:00		
	c52	Changing from RAM environment to disk environment.
21:30		
	c46	Normal installation processing.
	570	Configuring virtual SCSI devices.
22:00		
	c46	Normal installation processing.
	731	Identifying or configuring PTY.
	539	The configuration method has terminated, returning to config.
	811	Identifying or configuring processor complex.
	538	The configuration manager is invoking a configuration method.
	570	Configuring virtual SCSI devices.
22:30		
	Blank	

Table 23 (Page 3 of 3). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
23:00		
	u78	Running rsh to complete node processing on boot/install server.
	u60	Creating /**etc**/**ssp**/**server_name** and updating /**etc**/**hosts**.
	u68	Copying kerberos realms file from boot/install server.
	u59	Running **config_node** to define adapters.
27:00		
	u65	SSP completing the **install**/**customize**/**maint**. Issuing shutdown.
27:30		
	c46	Normal installation processing.
28:00		
	292	Running SCSI POST.
	298	Attempting a software IPL.
	291	Running standard I/O POST.
	299	IPL ROM passed control to the loaded program code.
	Blank	
	890	SCSI-2 differential fast/wide adapter.
	820	
	538	The configuration manager is invoking a configuration method.
	570	Configuring Virtual SCSI devices.
28:30		
29:00		
	551	Running IPL varyon.
	517	Mounting client remote file system during network IPL.
29:30		
	553	IPL phase 1 is complete.
	570	Configuring virtual SCSI devices.
	538	The configuration manager is invoking a configuration method.
	c33	Selecting a tty terminal attached to serial ports S1 or S2.
30:00		
	Blank	
33:00		
	83u	Running SSP configuration method for TB2 card.
34:00		
	570	Configuring virtual SCSI devices.
	538	The configuration manager is invoking a configuration method.
34:30		
	Blank	

Section 2: SP Messages

This section contains the following message identifiers for SP messages:

0016-*nnn*	Parallel System Support Programs Installation Messages
0017-*nnn*	Print Management Messages
0018-*nnn*	supper Messages
0019-*nnn*	Login Control Messages
0020-*nnn*	Accounting Messages
0021-*nnn*	IBM Virtual Shared Disk Common Messages
0022-*nnn*	CMI Messages
0023-*nnn*	Resource Manager Messages
0025-*nnn*	System Data Repository Messages
0026-*nnn*	spmon Messages
0027-*nnn*	User Administration Messages
0028-*nnn*	Switch Support Messages
0034-*nnn*	IBM Virtual Shared Disk Common Messages
0035-*nnn*	cstartup Messages
0036-*nnn*	cshutdown Messages
0037-*nnnn*	SYSMAN_test Messages
0038-*nnn*	Amd Messages
0041-*nnn*	Remote Command Messages
2125-*nnn*	Problem Management Messages
2500-*nnn*	Hashed Shared Disk (HSD) Messages
2501-*nnn*	Sysctl Messages
2502-*nnn*	Authentication Messages
2503-*nnn*	Kerberos Messages
2504-*nnn*	Kerberos Messages
2505-*nnn*	Heartbeat Messages
2508-*nnn*	Log Management Messages
2509-*nnn*	HACWS Messages
2510-*nnn*	Switch Fault Service Daemon Messages
2511-*nnn*	Switch Table Support Messages
2520-*nnn*	Group Services Messages
2521-*nnn*	Event Management Messages
2522-*nnn*	Resource Monitor Messages
2523-*nnn*	Topology Messages
2530-*nnn*	Node Grouping Command Line Messages
2531-*nnn*	System Partitioning Aid Messages
2536-*nnn*	SNMP Manager for Dependent Nodes Messages
2532-*nnn*	Problem Management Messages
5025-*nnn*	dsh and Parallel Commands Messages

Note that not all SP messages are included in this section.

- **Informational** messages provide status or usage information and do not require an explanation. These messages are not included here.
- **SP Perspectives extended help** messages are provided online where appropriate. These messages are not included here.
- **Error** messages indicate a possible problem or error has occurred. They require further explanation to help you understand the cause and recover from the situation. These messages are included, beginning on page 141.

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The following message indicates that the system cannot find the message catalog:

```
Msg nnnn not found
```

This could be caused by an error or it might indicate that your language is not supported.

If this happens, perform these steps to access the catalog:

1. Check the LANG environmental variable. If it is coded **En_US, en_US** or **C.**,
   a. Check for a directory with your language variable name in **/usr/lib/nls/msg/** and ensure that it contains the message catalogs.

   If the LANG environmental variable is coded other than **En_US, en_US** or **C.**, then your language is not supported.
   a. In this case you can access the messages by creating a link from the directory with your language variable name in **/usr/lib/nls/msg/** to the **/usr/lib/nls/msg/en_US** directory. If you prefer, you can also link each message catalog separately.

Chapter 26. 0016 - Parallel System Support Programs Installation Messages

0016-003 Could not create directory *netinst_home_directory***. Exiting...**

Explanation: The **netinst** home directory could not be created.

User Response: Make sure that the file system in which the home directory resides is writable and that the home directory is not currently a link to another location or file.

0016-007 Error found while trying to create logical volume *volume_name***.**

Explanation: Could not use the **mklv** command to make **install_images** logical volume.

User Response: Verify that the **install_images** volume does not already exist. Make sure that there are partitions available for creation of this logical volume in the root volume group (**rootvg**).

0016-008 Error found while trying to create filesystem *pathname***.**

Explanation: The **crfs** command could not create the **/usr/sys/inst.images/ssp** filesystem.

User Response: Check that **/usr/sys/inst.images/ssp** does not already exist. Make sure that the **install_images** logical volume has been created.

0016-009 Error found while trying to mount filesystem *pathname***.**

Explanation: The **/usr/sys/inst.images/ssp** directory could not be mounted.

User Response: Verify that there is an entry for the **/usr/sys/inst.images/ssp** filesystems in **/etc/filesystems** and that it has been created.

0016-011 Error found while trying to extend the filesystem *file_system_name* **by** *number* **extra blocks needed.**

Explanation: The **chfs** command could not extend the size of the file system.

User Response: Verify that there is enough space on the logical volume **install_images** to increase the size of the file system.

0016-013 Error found while assigning value to SDR SP cw_ipaddrs attribute. SDR Return Code: *return code***.**

Explanation: The SP **cw_ipaddrs** attribute could not be assigned a value in the SDR.

User Response: Use the SDR return code to determine where the error occurred. You may also use the **splstdata** command to verify the SP object information stored in the SDR.

0016-014 Error found while querying SDR for reliable host names. SDR Return Code *return code***.**

Explanation: The SDR did not, or could not, retrieve values for the Node object **reliable_host_names** attribute.

User Response: Use the SDR return code to determine where the error occurred. You may also use the **splstdata** command to verify the SP object information stored in the SDR.

0016-015 Error found while trying to export *file system* **on install server. Return code from** *command* **command:** *return code***.**

Explanation: This filesystem could not be added to the exports list for this system or an existing export could not be modified.

User Response: Use the **export** command return code to locate the error. Verify current exports.

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0016-019 Error... Node number was not previously set in the ODM. Exiting...

Explanation: The ODM does not contain an entry for the SP **node_number** for this node.

User Response: If this is a control workstation, verify that **install_cw** has been run. If this is a system node, verify that **config_node** has been run.

0016-022 Error found while trying to setup services with services_config. Exiting...

Explanation: The **services_config** script found errors when trying to call configuration scripts to set up the automounter, NTP, print and admin services and/or login control.

User Response: Verify the services that should be configured by **services_config**. Check **services_config** error messages to determine which services could not be configured. Using the **splstdata** command, verify that the information entered into the SDR is correct for this system.

0016-025 The config_info file for node *number* **does not exist. Exiting...**

Explanation: This node's **config_info** file is not in the /**tftpboot** directory.

User Response: Using the **splstdata** command, verify the **boot_server** entry for this node in the SDR and rerun **setup_server**. Look for the message indicating that this node's **config_info** and **install_info** files are being created.

0016-034 Could not find a control workstation interface to be used in transferring install images to this install server node *number***. Exiting...**

Explanation: This install server will need to contact the control workstation in order to transfer the needed image(s). It must contact the control workstation over a common network interface. This message indicates that no common network interface was found for the control workstation and this install server node.

User Response: Verify the address information that is stored in the SDR. You may use the **splstdata** command to do this. Also, make sure that the control workstation and install server are connected over the same subnet.

0016-036 *Install image directory* **already exists. Cannot create a filesystem of this name. Please move the contents and remove the existing** *image name***. Then rerun setup_server.**

Explanation: The directory /**usr**/**sys**/**inst.images**/**ssp** already exists, but is not a file system in the **install_images** logical volume.

User Response: Move the contents of /**usr**/**sys**/**inst.images**/**ssp** to another place (if they need to be saved), and remove the directory. Then rerun **setup_server**. /**usr**/**sys**/**inst.images**/**ssp** must be in the **install_images** logical volume.

0016-037 This is not a control workstation. Exiting ...

Explanation: **install_cw** can only be run on control workstations.

User Response: If this is a control workstation, verify that the entry in the ODM SP **node_number** attribute is set to 0.

0016-038 Problem adding control workstation node number to ODM. Exiting...

Explanation: A problem was found while issuing the **odmadd** command to add the node number attribute in the ODM SP object.

User Response: Verify that the SP node number attribute has not already been set. Verify that there are no ODM configuration problems on this system.

0016-039 Error found while setting SP environment variables. Exiting...

Explanation: The **init_ssp_envs** function could not set SP environment variables from the values stored in the SDR.

User Response: Verify that SP information is complete in the SDR and that the SDR is

functioning properly. You may use the **splstdata** command to verify the information in the SDR. Also verify that the node number for this node is set in the ODM SP object.

0016-040 Error found while trying to mount ssp images dir from *control workstation name***. Exiting...**

Explanation: This node cannot mount **/usr/sys/inst.images/ssp** from the control workstation in order to install an ssp option.

User Response: Verify that the control workstation is available and that the **/usr/sys/inst.images/ssp** file system is exported on the control workstation, allowing this host to access it.

0016-041 Error found while installing ssp.sysman. Exiting...

Explanation: The **installp** command failed on this system when installing **ssp.sysman**.

User Response: If this is not a control workstation, verify that **/mnt/ssp.installp** exists and the mount to the control workstation **/usr/sys/inst.images/ssp** directory occurred. If this is a control workstation, verify that the file **/usr/sys/inst.images/ssp/ssp.installp** exists. Also check error commands from **installp**.

0016-042 Error found while executing the *program name* **configuration script.**

Explanation: Errors were found during the configuration of this service.

User Response: Consult error message list for this service to determine the cause for the error.

0016-043 Node number has not been set for this node. Exiting ...

Explanation: The **node_number** script did not return this node's node number.

User Response: Check the ODM SP object to see if the **node_number** has been set. If this is a control workstation and the node number attribute has not been set, make sure that the **install_cw** script has been run. If this is a node and the **node_number** attribute has not been set, make sure that the **config_node** script has been run. These scripts should have been run automatically during the installation process. Verify that there were no errors during installation.

0016-044 Error found while querying the SDR for SP attributes. Exiting...

Explanation: An error occurred while getting the SP attribute names from the SDR.

User Response: Using the **splstdata** command, verify that the SDR is available and that the SP object is configured.

0016-045 Error found while querying the SDR for SP attribute values. Exiting...

Explanation: An error occurred while getting the SP attribute values from the SDR.

User Response: Using the **splstdata** command, verify that the SDR is available and that the SP object is configured.

0016-046 Error found while installing ssp.css. Exiting...

Explanation: The **installp** command failed on this system when installing **ssp.css**.

User Response: If this is not a control workstation, verify that **/mnt/ssp.installp** exists and the mount to the control workstation **/usr/sys/inst.images/ssp** directory occurred. If this is a control workstation, verify that the file **/usr/sys/inst.images/ssp/ssp.installp** exists. Also check error commands from **installp**.

0016-048 Cannot install ssp services software because /usr has read-only permissions.

Explanation: The **services_config** script cannot install either **ssp.sysman** or **ssp.css** because the **/usr** file system is not writable. This is most likely to happen when the node is a **/usr** client.

User Response: Be sure to run **services_config** first on this node's **/usr** server to ensure that the proper software has been installed for all of its clients.

0016-049 Error found while installing ssp.jm.

Explanation: The **installp** command failed on this system when installing **ssp.jm**.

User Response: Make sure that the prerequisite programs, **ssp.basic**, and **ssp.css**, have been installed on this node.

0016-050 Error found while executing cfgmgr after ssp.css installation

Explanation: The AIX command **cfgmgr** failed after installation of **ssp.css**.

User Response: If this is a re-install, a reboot of the node must be done before re-installing to do the necessary clean-up. Reboot the node and reinstall the **ssp.css** option.

0016-051 Error found while executing rc.switch after ssp.css installation

Explanation: The **rc.switch** command failed after installation of **ssp.css**.

User Response: If this is a re-install, a reboot of the node must be done before re-installing to do the necessary clean-up. Reboot the node and reinstall the **ssp.css** option.

0016-052 The add_principal command could not add service principals to the Kerberos database.

Explanation: The Kerberos **add_principal** command could not add one or more rcmd service instances to the Kerberos database. The most likely reason is that you failed to **kinit** as root.admin prior to using **setup_server**, **spbootins**, or **spsitenv**. Further information can be obtained from **add_principal** error messages on stderr and **kadmind** error messages in **/var/adm/SPlogs/kerberos/admin_server.syslog**.

User Response: Make sure you have logged into Kerberos as root.admin, using the **kinit** command, prior to performing this task.

0016-053 The ext_srvtab command failed to create file /tftpboot/*node_name*-new-srvtab.

Explanation: The **ext_srvtab** command could not create a *node_name*-**new-srvtab** file. Since the rcmd.*node_name* principal was just added to the database, this is probably a programming error in the PSSP authentication support.

Note: *node_name* is lowercase translation of actual node host name.

User Response: Use the **kdb_util** dump command to dump the Kerberos database, gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-054 Server key file /tftpboot*host_name*-new-srvtab was not found.

Explanation: The server key file *node_name*-**new-srvtab** for a node was not found in the **/tftpboot** directory on the control workstation, as required. This is probably a programming error in the PSSP authentication support.

Note: *node_name* is lowercase translation of actual node host name.

User Response: Follow the procedures described in this book for re-creating the missing server key file. If this is unsuccessful, gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-055 Kerberos file *file name* is missing.

Explanation: A configuration file or the server key file required by Kerberos is missing. You failed to complete setting up Kerberos before performing the failing task.

User Response: Before running **install_cw** on the control workstation you must configure Kerberos. To configure the Kerberos authentication services on the control workstation, use the **setup_authent** script. If you are using an existing Kerberos server on another workstation, you must obtain the configuration files from that system.

0016-056 You must log in to Kerberos as an admin principal to complete this task.

Explanation: You invoked **setup_server** on the control workstation for the first time or after adding or renaming one or more nodes on the system. In order to create Kerberos principals for the rcmd service on those nodes, you must be logged into Kerberos as a database administrator. You have not logged in, and **setup_server** cannot proceed.

User Response: Enter the command **kinit root.admin** or **kinit user.admin**, where *user* is a Kerberos principal name defined with an admin instance. You must supply the password when prompted. *user*.admin must also be allowed to add principals to the database, which means that it must be in the server system's **/var/kerberos/database/admin_acl.add** file. If you are using the ssp.authent server, use root.admin.

0016-057 The create_srvtab command could not create server key files for the new Kerberos principals.

Explanation: The **setup_server** script is adding principals to an afs or a non-local Kerberos database for new nodes that are being configured in the system. During that process, **setup_server** creates the server key files for each of the nodes in **/tftpboot**/*node_name***-new-srvtab**. The creation of at least one of the server key files failed.

User Response: Check the directory **/tftpboot** for the existence of files with names of the form *node_name***-new-srvtab**. One file should exist for every node configured in the system. Check the filesystem, ensure that space exists in the filesystem, and run the **setup_server** script again.

0016-058 You must run setup_server from the command line when using a Kerberos database not on the control workstation.

Explanation: The **setup_server** script is trying to add principals to the Kerberos database for new nodes that are being configured in the system and the Kerberos database is either maintained within an afs database or the database is on a system other than the control workstation. In either of these cases, the user must be prompted for an administrative password. When running under SMIT this prompt would cause the script to hang. This message will be issued if **setup_server** detects that the script is being run from within SMIT. Setup server will then exit without prompting for a password.

User Response: Exit SMIT and enter the command **setup_server** on the command line.

0016-059 The kpropd daemon failed trying to update the Kerberos database.

Explanation: The **setup_server** script is trying to update the local Kerberos database for new nodes that are being configured in the system but cannot do so because the **kpropd** daemon has failed. Refer to additional messages in the file **/var/adm/SPlogs/kerberos/kpropd.log**.

User Response: If the log messages do not indicate a correctable error, you could re-initialize the Kerberos environment using the **setup_authent** command.

0016-060 Unable to contact the primary Kerberos server at *server_host_name* **to update the Kerberos database.**

Explanation: The **setup_server** script is trying to update the local Kerberos database for new nodes that are being configured in the system, but cannot do so because it cannot initiate the propagation of the database using the authenticated **rsh** command to the primary server host.

User Response: Make sure that the primary server is up and available, and that TCP/IP communication can take place between the systems. Check that the **.klogin** file in root's home directory on the primary server contains an entry for the rcmd service instance on the control workstation.

0016-061 Unable to contact the primary Kerberos server at *primary_server_host_name* to extract server key files.

Explanation: **setup_server** was unable to obtain server key files from the primary server. Either the **rsh** command failed, or the **ext_srvtab** command executed on the primary failed to create the file. This could be a communication problem between the systems or a setup problem with authentication on the primary server. Check TCPIP connectivity. If the primary refused permission for the **rsh**, check the **.klogin** file on the primary server system (in root's home directory). That file must contain an entry *user.***admin@***local_realm*, where *user* is the Kerberos principal name you used to log in.

User Response: If the **.klogin** statement is missing, add it, and run **setup_authent** again (on this system).

0016-062 Could not open file: *file_name* for reading; rc = *return_code*.

Explanation: The file **/etc/SDR_dest_info** could not be opened in read mode.

User Response: The file **/etc/SDR_dest_info** must exist on each node. It is created and maintained by the system software. Absence of this file signifies that the node was not properly installed, the file was accidentally deleted or a system error has occurred.

0016-063 *file_name* file contains no -"default:-" line.

Explanation: The file **/etc/SDR_dest_info** did not contain a line beginning with the identifier "default:".

User Response: For PSSP-2.1 and later system partitions, each node in the system partition must contain the file **/etc/SDR_dest_info**, which must contain a line of the form: **"default: <IP-address>"** where **<IP-address>** is the address of the default system partition. Absence of this line signifies that the node was not properly installed, the line was accidentally deleted or a system error has occurred.

0016-064 *file_name* file contains no -"primary:-" line.

Explanation: The file **/etc/SDR_dest_info** did not contain a line beginning with the identifier "primary:".

User Response: For PSSP-2.1 and later system partitions, each node in the system partition must contain the file **/etc/SDR_dest_info**, which must contain a line of the form: **primary: <IP-address>** where **<IP-address>** is the address of the system partition. Absence of this line signifies that the node was not properly installed, the line was accidentally deleted or a system error has occurred.

0016-065 Could not open file: *file_name* for writing; rc = *return_code*.

Explanation: The file **/etc/SDR_dest_info** could not be opened in write mode.

User Response: The file **/etc/SDR_dest_info** must exist on each node. It is created and maintained by the system software. Absence of this file signifies that the node was not properly installed, the file was accidentally deleted, or a system error has occurred.

0016-066 Could not write to file: *file_name*.

Explanation: A write operation to the file **/etc/SDR_dest_info** failed.

User Response: The file **/etc/SDR_dest_info** exists but could not be written to. Check for a full file system.

0016-067 Error detected in call to SDRGetObjects. SDR Return Code: *return_code*.

Explanation: A problem occurred with the SDRGetObjects call.

User Response: An error message prior to this was reported by the SDR call. See that error message's action.

0016-068 Error detected while performing an rcmd to *workstation_name* **with return code** *return_code***. Review above messages and take appropriate action. Exiting ...**

Explanation: A problem occurred issuing **rsh** to *workstation_name*. There was ether a time out or a lack of authorization.

User Response: The preceding messages should indicate the exact nature of the problem and action should be taken based on those error messages.

0016-069 Not enough space in the file system *file_system* **for image to be copied.**

Explanation: A check for available space to expand the *file_system* proved there wasn't enough space. This check is performed prior to the attempt to change the filesystem size.

User Response: Add more disk space to the volume group which contains the filesystem.

0016-070 Error trying to open output file *output_file***. Check permissions.**

Explanation: An attempt to open *output_file* for writing failed.

User Response: Check the file permissions of the file, or check to see if there is sufficient space to create a file in that file's filesystem. Make sure the process has permission to write *output_file*. If space is the problem, expand the filesystem. Then run **setup_server** again.

0016-071 Directory/File: *directory_name* **does not exist. Exiting.**

Explanation: *directory_name* must be a mountable file system. If the mount does not exist and it needs to be created, it cannot be created while a directory exists with the same name.

User Response: Remove or backup the directory and its contents, then run **setup_server** again.

0016-072 Error detected processing the following nim command: *nim_command***. Return code =** *return_code* **Check any previous error messages for possible problems.**

Explanation: The **nim** command failed to perform its stated action.

User Response: Review any previously issued error messages and take the appropriate action.

0016-073 The lppsource is not complete. Examine the following resources for correctness:
Rstate: *Rstate*
location: *simages*
simages: *simages*

Explanation: The **lppsource** is not complete.

User Response: Re-create the **lppsource** and run **setup_server** again.

0016-074 The lpp option, *lpp_option* **was not found in any lpp in the** *lpp_source_directory***. Ensure the proper lpp image is in the** *lpp_source_directory* **and run setup_server again.**

Explanation: The **lpp** named was not found in the **lppsource** directory.

User Response: A system administrator should load the required files in the **lppsource** directory and re-run **setup_server**.

0016-075 Error retrieving data from SDR; rc= *return_code*

Explanation: An error occurred while attempting to obtain information from the SDR. The program ends because it cannot continue without the required information.

User Response: Check the return code from the SDR to determine the reason for the failure.

0016-077 The /etc/inetd_conf file cannot be updated on server *server name***. rc =** *return code***.**

Explanation: update_inetd.conf has failed to update **/etc/inetd_conf**.

User Response: Determine if **/etc/inetd_conf** exists on the server or if the file can be copied to **/etc/inetd_conf.orig**.

0016-201 Incorrect number of tuples in IP address.

Explanation: The program encountered an error in an internet address.

User Response: Follow standard problem resolution procedures.

0016-202 IP address tuple is not numeric.

Explanation: The program encountered an error in an internet address.

User Response: Follow standard problem resolution procedures.

0016-203 IP address tuple is not 1, 2, or 3 bytes.

Explanation: The program encountered an error in an internet address.

User Response: Follow standard problem resolution procedures.

0016-204 IP address uple value exceeds 255.

Explanation: The program encountered an error in an internet address.

User Response: Follow standard problem resolution procedures.

0016-205 SDR error, rc=*return_code_from_SDR_command***.**

Explanation: The program could not retrieve values from the SDR.

User Response: Use the SDR return code to determine where the error occurred.

0016-206 Unknown command option: *command_option***.**

Explanation: A program option that was not valid was supplied.

User Response: Issue the command again with correct option(s).

0016-207 Failure to reach *host_name***; rc=***return_code***.**

Explanation: The program could not communicate with the specified host name.

User Response: Resolve the communications problem and try the command again.

0016-208 Error reading /.rhosts file on control workstation; rc= *return_code***.**

Explanation: The attempt to read the /.rhosts file on the control workstation failed.

User Response: Follow standard problem resolution procedures.

0016-209 Error writing /.rhosts file on control workstation; rc= *return_code***.**

Explanation: The attempt to write the /.rhosts file on the control workstation failed.

User Response: Follow standard problem resolution procedures.

0016-210 Missing /.rhosts file on control workstation; rc= *return_code***.**

Explanation: The /.rhosts file on the control workstation is missing. The program expected the file to exist and it does not.

User Response: If you manually deleted the /.rhosts file during the running of the program then you may ignore this message. Otherwise follow standard problem resolution procedures.

0016-211 Missing entry for *host_name* **in /.rhosts file on control workstation.**

Explanation: The program expected (but failed) to find the indicated entry in the /.rhosts file on the control workstation.

User Response: If you manually deleted the entry during the running of the program you can

ignore this message. Otherwise follow standard problem resolution procedures.

0016-212 Error deleting entry *host_name* **in /.rhosts file on control workstation; rc=** *return_code***.**

Explanation: The program encountered a problem in attempting to delete the indicated entry from the /.rhosts file on the control workstation. The return code is the return code from the **sed** command.

User Response: Use the return code and follow standard problem resolution procedures. Investigate the contents of the /.rhosts file on the control workstation to ensure that they are correct.

0016-220 Invalid command option(s).

Explanation: A command option that was not valid was supplied.

User Response: Submit the command again with the correct option(s).

0016-221 Invalid command operand(s).

Explanation: A command operand that was not valid was supplied.

User Response: Submit the command again with the correct operand(s).

0016-222 Missing "-l-" option.

Explanation: The **-l** option is required for this command and was missing.

User Response: Submit the command again with the required option.

0016-223 Invalid node number.

Explanation: A node number that was not valid was supplied to the command.

User Response: Submit the command again with a valid node number.

0016-224 SDR error, rc=*return_code_from_SDR_command***.**

Explanation: The program could not retrieve values from the SDR.

User Response: Use the SDR return code to determine where the error occurred.

0016-225 Node *node_number* **(***node_name***) is not a boot/install server.**

Explanation: The indicated node is not a boot/install server node.

User Response: Issue the command again with the node number of a boot/install server node.

0016-226 dsh failure on *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The program was unable to contact the indicated node.

User Response: Resolve the communications problem and reissue the command.

0016-227 Mount of lpp source directory failed on *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The program failed to mount the lpp source directory from the control workstation on the indicated node.

User Response: Use the reported return code from the **mount** command to diagnose the problem and issue the command again.

0016-228 installp failure on node *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The **installp** command failed on the indicated node.

User Response: Use the reported return code from the **installp** command to diagnose the problem and issue the command again.

0016-229 netstat failure on node *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The **netstat** command failed on the indicated node.

User Response: Use the reported return code from the **netstat** command to diagnose the problem and issue the command again.

0016-230 Invalid SDR bootp_response value: *boot_response_value* **for node** *node_number* **(***node_name***).**

Explanation: The indicated *bootp_response* was found in the SDR for the indicated node. This *bootp_response* is not valid. The *bootp_response* value for a node is set with the **spbootins** command. A *bootp_response* that is not valid indicates a corrupted SDR.

User Response: Follow standard problem resolution procedures.

0016-231 Client node *node_number* **(***node_name***) not defined on server node** *node_number* **(***node_name***) -n(lsnim -l <client-name>; rc=***return_code***).**

Explanation: The indicated client node is not defined as a NIM client on the indicated server node. This definition must be in place for the command (*program name*) to succeed.

User Response: Use **mknimclient** to define the client node as a NIM client of the server node.

0016-232 No ethernet adapter in "up-" state on node *node_number* **(***node_name***).**

Explanation: The program found no ethernet adapters in the **up** state on the indicated node.

User Response: Follow standard problem resolution procedures.

0016-233 Unable to find spot resource in NIM database on server-nnode *node_number* **(***node_name***) for node** *node_number* **(***node_name***).**

Explanation: This message does not seem to be used by any command.

User Response: This message does not seem to be used by any command.

0016-234 Unable to find matching spot resource (*spot_resource***) in NIM database-non server node** *node_number* **(***node_name***) for node** *node_number* **(***node_name***).**

Explanation: This message does not seem to be used by any command...

User Response: This message does not seem to be used by any command.

0016-235 nimconfig failure on node *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The **nimconfig** command failed on the indicated node.

User Response: Use the reported return code from the **nimconfig** command to diagnose the problem and issue the command again.

0016-236 Failure of "installp -C-" to cleanup failed install on node *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The **installp -C** command failed on the indicated node. Cleanup processing continues in the event of this error.

User Response: Check the indicated node for NIM master filesets which may have not been removed.

0016-237 Failure to obtain node number from ODM (rc=*return_code***).**

Explanation: The program failed to obtain the node's node number from the ODM.

User Response: Follow standard problem resolution procedures.

0016-238 lsnim failure on server node *node_number* **(***node_name***), for client-nnode** *node_number* **(***node_name***); rc=** *return_code* **(or no lsnim output).**

Explanation: The **lsnim** command failed with the indicated return code (or if the return code is zero the **lsnim** command returned no output).

User Response: Follow standard problem resolution procedures.

0016-239 No matching network between server node *node_number* **(***node_name***)-nand client node** *node_number* **(***node_name***).**

Explanation: A network connecting the indicated server node and client node was not found.

User Response: None.

0016-240 Failure to define client node *node_number* **(***node_name***) on server-nnode** *node_number* **(***node_name***) (nim -o define; rc=***return_code***).**

Explanation: The attempt to define the indicated client node as a NIM client on the indicated server node by issuing the **nim -o define** command failed.

User Response: Use the reported return code from the **nim -d define** command to diagnose the problem and issue the command again.

0016-241 Server node *node_number* **(***node_name***) for client node** *node_number***-n(***node_name***) not configured as a NIM master.**

Explanation: The attempt to define the indicated client node as a NIM client of the indicated server node failed because the server node is not configured as a NIM master.

User Response: Configure the server node as a NIM master. Issue the command again.

0016-242 Client node *node_number* **(***node_name***) already defined on server node** *node_number* **(***node_name***).**

Explanation: The attempt to define the indicated client node as a NIM client of the indicated server node failed, because the client node is already defined as a NIM client of the server node.

User Response: Command processing skips to the next client node in the list, if there is any.

0016-243 This command must be run on the control workstation.

Explanation: The command (program name) must be run on the control workstation.

User Response: Submit the command again on the control workstation.

0016-244 Node number *node_number* **(***node_name***) not defined in SDR.**

Explanation: The supplied node number is not defined in the SDR.

User Response: Issue the command again with a valid node number.

0016-245 No boot/install server defined for node *node_number* **(***node_name***).**

Explanation: The supplied node number does not have a valid boot_server node definition in the SDR.

User Response: Follow standard problem resolution procedures.

0016-246 Directory: *directory_name* **does not exist on the control workstation.**

Explanation: The indicated lpp_source directory does not exist on the control workstation.

User Response: None.

0016-247 Failure to export *directory* **on control workstation; rc=***return_code***.**

Explanation: The program failed to export the indicated directory on the control workstation.

User Response: Use the reported return code from the **exportfs** command to diagnose the problem and issue the command again.

0016-248 installp failure to reject fileset installation on node *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The **installp -r** command failed on the indicated node.

User Response: Check the indicated node for NIM master filesets which may have not been removed.

0016-249 Unmount of lpp source directory failed on node *node_number* **(***node_name***), rc=***return_code***.**

Explanation: The program failed to unmount the lpp source directory from the control workstation on the indicated node.

User Response: Command processing continues.

0016-250 Failure of *host_command* **command on boot/install-nserver node** *node_number***; rc=***return_code***.**

Explanation: The host command failed.

User Response: Follow standard problem resolution procedures.

0016-251 Failure to allocate spot resource *spot_resource* **from server node** *node_number***-n(***node_name***) to node** *node_number* **(***node_name***) (nim -o allocate; rc=***return_code***).**

Explanation: The attempt to allocate the indicated SPOT resource failed.

User Response: Use the return code from the **nim -o allocate** command to diagnose the problem.

0016-252 Unable to find lpp_source resource in NIM database on server-nnode *node_number* **(***node_name***) for client node** *node_number* **(***node_name***).**

Explanation: This message does not seem to be used by any command.

User Response: This message does not seem to be used by any command.

0016-253 Unable to find matching lpp_source resource (*llp_source_resource***) in NIM database-non server node** *node_number* **(***node_name***) for client node** *node_number* **(***node_name***).**

Explanation: This message does not seem to be used by any command.

User Response: This message does not seem to be used by any command.

0016-254 Failure to allocate lpp_source resource *lpp_source_resource* **from-nserver** *node_number* **(***node_name***) to client node** *node_number* **(***node_name***)-n(nim -o allocate; rc=***return_code***).**

Explanation: The attempt to allocate the indicated lpp_source resource failed.

User Response: Use the return code from the **nim -o allocate** command to diagnose the problem.

0016-255 Failure to allocate bosinst_data resource *bosinst_data_resource* **from-nserver node** *node_number* **(***node_name***) to client node** *node_number* **(***node_name***)-n(nim -o allocate; rc=***return_code***).**

Explanation: The attempt to allocate the indicated bosinst_data resource failed.

User Response: Use the return code from the **nim -o allocate** command to diagnose the problem.

0016-256 Failure to allocate script resource psspscript from-nserver node *node_number* **(***node_name***)-n(nim -o allocate; rc=***return_code***).**

Explanation: The attempt to allocate the indicated script resource failed.

User Response: Use the return code from the **nim -o allocate** command to diagnose the problem.

0016-257 Unable to find mksysb resource in NIM database on server-nnode *node_number* **(***node_name***) for client node** *node_number* **(***node_name***).**

Explanation: The indicated server node (NIM master) does not contain a resource definition for any mksysb resources. The NIM master must have a mksysb resource defined to install the client node.

User Response: Use the **mknimres** command to define the necessary resources on the server node.

0016-258 Unable to find matching mksysb resource (*mksysb_resource***) in-nNIM database on server node** *node_number* **(***node_name***) for-nclient node** *node_number* **(***node_name***).**

Explanation: The indicated server node (NIM master) does not contain a mksysb resource that matches the mksysb image name defined for the server node in the SDR.

User Response: Use the **mknimres** command to define the necessary resources on the server node.

0016-259 Failure to allocate mksysb resource *mksysb_resource* **from server-nnode** *node_number* **(***node_name***) to client node** *node_number* **(***node_name***)-n(nim -o allocate; rc=***return_code***).**

Explanation: The attempt to allocate the indicated mksysb resource failed.

User Response: Use the return code from the **nim -o allocate** command to diagnose the problem.

0016-260 Failure of bosinst operation (maint) from server-nnode *node_number* **(***node_name***) to client node** *node_number* **(***node_name***)-n(nim -o bosinst; rc=***return_code***).**

Explanation: The attempt to perform the **bos_inst** operation failed.

User Response: Use the return code from the **nim -o bos_inst** command to diagnose the problem.

0016-261 Failure of bosinst operation (install) from server-nnode *node_number* **(***node_name***) to client node** *node_number* **(***node_name***)-n(nim -o bosinst; rc=***return_code***).**

Explanation: The attempt to perform the **bos_inst** operation failed.

User Response: Use the return code from the **nim -o bos_inst** command to diagnose the problem.

0016-262 Failure of bosinst operation (migrate) from server-nnode *node_number* **(***node_name***) to client node** *node_number* **(***node_name***)-n(nim -o bosinst; rc=***return_code***).**

Explanation: The attempt to perform the **bos_inst** operation failed.

User Response: Use the return code from the **nim -o bos_inst** command to diagnose the problem.

0016-263 Failure of diag operation from server node *node_number* **(***node_name***)-nto client node** *node_number* **(***node_name***) (nim -o diag; rc=***return_code***).**

Explanation: The attempt to perform the **diag** operation failed.

User Response: Use the return code from the **nim -o diag** command to diagnose the problem.

0016-264 **lsattr on node** *node_number* **(***node_name***), adapter** *adapter* **returned-nbnc_select:** *bnc_select_value***; should be either -"bnc-" or -"dix-".**

Explanation: The **lsattr** command returned a *bnc_select* value of other than *bnc* or *dix* for the indicated node.

User Response: Follow standard problem resolution procedures.

0016-265 **lsattr failure on node** *node_number* **(***node_name***), adapter** *adapter***;-nrc:** *return_code* **(or no lsattr output).**

Explanation: The **lsattr** command failed with the indicated return code (or if the return code is zero the **lsattr** command returned no output).

User Response: Follow standard problem resolution procedures.

0016-266 **lsattr on node** *node_number* **(***node_name***), adapter** *adapter***, returned-nbnc_dix_jumper:** *bnc_dix_jumper_value***; should be -"yes-".**

Explanation: The **lsattr** command returned the indicated *bnc_dix_jumper* value. The value should have been *yes*.

User Response: Follow standard problem resolution procedures.

0016-267 **Node** *node_number* **(***node_name***), adapter:** *adapter***, has cable type=***cable_type***; ;-n SDR has cable type=** *cable_type_in_SDR* **(mismatch).**

Explanation: The SDR and the output of the **lsattr** command differ in the value of the cable type for the indicated adapter.

User Response: The SDR has potentially invalid (or obsolete) data. Check the contents of the SDR for valid adapter information.

0016-268 **lsnim on server node** *node_number* **(***node_name***) for-nclient node:** *node_number* **(***node_name***) returned no output.**

Explanation: The **lsnim** command on the indicated NIM master node did not return any output. This may have occurred if the server node has not yet been defined as a NIM master (by **mknimmast**).

User Response: Run **mknimmast** on the server node if it has not yet been configured as a NIM master and issue the original command again.

0016-269 **This command must be run on the Control-nWorkstation or a boot/install server.**

Explanation: The command (**program name**) must be run on the control workstation or a boot/install server node.

User Response: Submit the command again on the control workstation or a boot/install server node.

0016-270 **Node** *node_number* **(***node_name***) is not indicated as a-nboot/install server in the SDR.**

Explanation: This node does not have a node that defines its boot/install server in the SDR.

User Response: Command processing continues.

0016-271 **Failure to unconfigure NIM on node** *node_number* **(***node_name***); rc=***return_code***.**

Explanation: The attempt to unconfigure NIM on the indicated node failed.

User Response: Use the return code from the **nim -o unconfig master** command to diagnose the problem.

0016-272 Failure to uninstall *fileset_name* **on node** *node_number* **(***node_name***); rc=***return_code***.**

Explanation: The attempt to uninstall the indicated NIM fileset on the indicated node failed.

User Response: Use the return code from the **installp -u** command to diagnose the problem.

0016-273 Cannot delete NIM client definition for control workstation.

Explanation: The command **delnimclient -l 0** was issued. You cannot delete the control workstation as a NIM client.

User Response: Issue the command again with a valid node number.

0016-274 Failure to delete NIM client definition for node *node_number* **(***node_name***)-non boot/install server node** *node_number* **(***node_name***)-n(nim -o remove <client-name>; rc=***return_code***).**

Explanation: The attempt to delete the indicated node as a NIM client of the indicated server node failed.

User Response: Use the return code from the **nim -o remove** command to diagnose the problem.

0016-275 Failure to deallocate NIM resources for node *node_number* **(***node_name***)-nfrom boot/install server node** *node_number* **(***node_name***)-n(nim -o deallocate ... <client-name>; rc=***return_code***).**

Explanation: The NIM command to deallocate resources from the specified node failed with the specified return code.

User Response: Use the return code from the **nim -o deallocate** command to diagnose the problem. In some instances command processing continues.

0016-276 Failure to reset node *node_number* **(***node_name***)-non boot/install server node** *node_number* **(***node_name***) -n(nim -Fo reset <client-name>; rc=***return_code***).**

Explanation: The NIM command to reset the specified node failed with the specified return code.

User Response: Use the return code from the **nim -Fo reset** command to diagnose the problem. In some instances command processing continues.

0016-277 Cannot create NIM client definition for control workstation.

Explanation: The **mknimclient -l 0** command was entered. You cannot define the control workstation (node 0) as a NIM client.

User Response: Issue the command again with a valid node number.

0016-278 Inactive control workstation - exiting.

Explanation: The primary or backup control workstation is not active.

User Response: Activate the control workstation that is not active and run **setup_server** again.

0016-279 Failure of internally called command: *command_name***; rc=***return_code***.**

Explanation: The internally called command *command_name* returned a non-zero return code or no output was returned to standard output.

User Response: Follow standard problem resolution procedures.

0016-280 Unable to delete NIM client definition for node *node_number* **(***node_name***)-ndue to allocated resources. -nUse unallnimres to deallocate resources and retry.**

Explanation: The attempt to delete the NIM client definition failed because the indicated NIM client has resources allocated to it. You cannot

delete a NIM client while it has resources allocated.

User Response: Deallocate resources (**unallnimres**) and try the command again.

0016-281 Server node *node_number* **(***node_name***) not configured as a NIM master.**

Explanation: The attempt to delete the NIM client definition failed because the indicated server node (from the SDR) is not defined as a NIM master. This is possibly due to a corrupted SDR.

User Response: Follow standard problem resolution procedures.

0016-282 The lsnim command failed on *host_name* **with return code** *return_code***.**

Explanation: The nim command, **lsnim**, failed.

User Response: Run the **lsnim** command on the machine named in the error message and take appropriate action to resolve the problem.

0016-283 The netstat command failed on *host_name* **with return code** *return_code***.**

Explanation: A base AIX command, **netstat**, has failed.

User Response: Run the **netstat** command on the machine named in the error message and take appropriate actions to resolve the problem.

0016-284 The lsattr command failed on *host_name* **with return code** *return_code***.**

Explanation: A base AIX command, **lsattr**, has failed.

User Response: Run the **lsattr** command on the machine named in the error message and take appropriate action to resolve the problem.

0016-285 Cannot find the cable type for logical device ent*number* **on** *host_name***.**

Explanation: An error occurred attempting to define an ethernet interface to NIM. The cable type could not be determined. The **lsattr** command could not find either a *bnc_select* or a *vnc_dix_jumper* attribute for the adapter.

User Response: Run the **lsattr** command for the ethernet adapter named in the error message to determine why the cable type could not be found.

0016-286 The nim -o define command failed to define spnet_*interface* **on** *host_name* **-n with return code** *return_code***.**

Explanation: An error occurred in attempting to define an interface to NIM.

User Response: Refer to the NIM error message and the return code from the NIM command to decide on appropriate action to resolve the problem.

0016-287 The lsnim -A if -l master command failed on *host_name* **with return code** *return_code***.**

Explanation: The **lsnim** command failed to determine the next interface number.

User Response: Run the command **lsnim -A if -l master** on the NIM master to reproduce the associated error message and take appropriate action.

0016-288 The host command failed on *host_name* **for** *IP_address* **with return code** *return_code***.**

Explanation: The **host** command failed to find a host name for the IP address in the error message.

User Response: Run the **host** command with the IP address in the error message to reproduce the error and take appropriate action to resolve the error.

0016-289 The nim -o change command failed for spnet_*interface* on *host_name*-n with return code *return_code*.

Explanation: The **nim -o change** command failed to add a route.

User Response: Refer to the NIM error message and return code and take appropriate action to resolve the problem.

0016-290 The netstat failed on the control workstation with return code *return_code*.

Explanation: The **netstat** command failed on the control workstation.

User Response: Run the **netstat -ni** command on the control workstation to reproduce the error and take appropriate action to resolve the problem.

0016-291 The lsattr on the control workstation failed for interface *interface* with return code *return_code*.

Explanation: The **lsattr** command failed on the control workstation.

User Response: Run the **lsattr -E -l** command for the interface named in the error message to reproduce the error and take appropriate action to resolve the problem.

0016-292 The lsattr on the control workstation failed attempting to get the ring_speed for interface *interface* with return code *return_code*.

Explanation: The **lsattr** command failed on the control workstation.

User Response: Run the **lsattr -E -l <interface> -a ring_speed** command on the control workstation to reproduce the error and take appropriate action to resolve.

0016-293 The lsattr on the control workstation failed attempting to get the attribute bnc_dix_jumper for interface *interface* with return code *return_code*.

Explanation: The **lsattr** command failed on the control workstation.

User Response: Run the **lsattr -E -l <interface> -a bnc_dix_jumper** command on the control workstation to reproduce the error and take appropriate action to resolve.

0016-294 The nim -o define failed for cw_*interface* on *host_name* with return code *return_code*.

Explanation: The **nim -o define** command failed to define an interface to NIM.

User Response: Check the NIM error message and try to determine why the interface could not be defined to NIM. Contact the IBM Support Center if necessary.

0016-295 The nim -o define command for the control workstation on *host_name* failed with return code *return_code*.

Explanation: The **nim -o define** command failed to define the control workstation as a client of the NIM master (boot/install server).

User Response: The control workstation must be able to be defined as a NIM client of the boot/install server so that the lpp_source resources can be accessed from the control workstation.

0016-296 The lsnim -l *control_workstation_name* on *host_name* failed with return code *return_code*.

Explanation: The **lsnim** command failed on the named system.

User Response: Run the **lsnim** command as in the error message and take appropriate action based on the failure.

0016-297 Unable to define nim object for control workstation on *host_name***.**

Explanation: NIM failed to define the control workstation as a client of a NIM master (boot/install server).

User Response: Refer to the accompanying NIM error message and correct the problem, then run the **mknimint** command again.

0016-298 The lsnim -Za failed for *control_workstation_name* **on** *host_name***.**

Explanation: The **lsnim** command failed on the named node or control workstation.

User Response: Refer to the accompanying NIM error message, take appropriate action, and run the **mknimint** command again.

0016-299 The lsnim -A failed for *control_workstation_name* **on** *host_name* **with a return code of** *return_code***.**

Explanation: The **lsnim** command failed on the named node or control workstation.

User Response: Refer to the accompanying NIM error message, take appropriate action, and run the **mknimint** command again.

0016-300 Cannot obtain afs cell name from *file name***.**

Explanation: The name of the local afs cell could not be read from the **/usr/vice/etc/ThisCell** file.

User Response: Check the file **/usr/vice/etc/ThisCell** to ensure that the file exists, that the file permissions allow read access to the user, and that the name of the local afs cell is contained in the first line of the file. Run the command again.

0016-301 Cannot access *file name***.**

Explanation: The file specified as input to the **afs_add_principal** command is not readable by the current process. The file is generated by the **setup_authent** or **setup_server** commands.

User Response: Gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-302 *principal_name* **could not be added to the database.**

Explanation: The **afs_add_principal** command received an error while attempting to add a principal name from the input file to the afs principal database.

User Response: Check to ensure that the caller's afs principal has the admin attribute within the local afs cell and rerun the command.

0016-303 Cannot set password for *principal_name***.**

Explanation: The **afs_add_principal** command received an error while attempting to set the password for a principal name from the input file.

User Response: Check to ensure that the caller's afs principal has the admin attribute within the local afs cell and rerun the command.

0016-304 *principal_name* **was not added to the database, because no password was supplied.**

Explanation: The password for a principal name in the input file generated by **setup_authent** or **setup_server** is blank (or null). A non-null password is required.

User Response: Gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-305 The afs kas command cannot be executed.

Explanation: The **afs_add_principal** command could not find an executable version of the afs **kas** command in **/usr/afsws/etc**, **/usr/afs/etc**, or in any directory in the user's current search path.

User Response: Check the installation of the afs executables. Also, check the file mode bits to ensure the user has execute permission for the **kas** command. If the **kas** command resides in some other directory, update the executable search path. Rerun the **setup_authent** or **setup_server** command.

0016-306 Cannot verify the afs admin principal *name*.

Explanation: The afs principal name entered by the user could not be used for administrative operations in the local afs cell. The principal name may not be defined in the local afs cell. The principal name may not have the ADMIN attribute in the local afs cell. The password supplied by the user may be incorrect. An error may have been encountered trying to contact the afs server.

User Response: Check for and correct any of the above conditions and rerun the **setup_authent** or **setup_server** command.

0016-310 Cannot access *file name*.

Explanation: The afs **CellServDB** file cannot be read by the current process. The **CellServDB** file must exist in the directory specified by the **-d** option or in the **/usr/vice/etc** directory if the **-d** option is not specified.

User Response: Check the **CellServDB** file to ensure that the file exists and that file permissions grant read access to the user. Rerun the command.

0016-311 Cannot get host name for network address *address*. Entry not written to *configuration_file*.

Explanation: The command encountered an entry for an afs server in the **CellServDB** file for which the corresponding host name could not be obtained. An entry for this server was not made in the output Kerberos configuration file. The command continued processing additional entries from the input file.

User Response: Correct any errors in the network address for the server in the input **CellServDB** file and rerun the command.

0016-312 Unrecognized line format in *file name*. Continuing with next line.

Explanation: The command encountered a line in the input **CellServDB** file which could not be parsed correctly. The line was ignored and additional entries in the file were processed.

User Response: Check the format of the entries in the input **CellServDB** file, correct any errors and rerun the command.

0016-320 The local realm is incorrectly specified in /etc/krb.conf.

Explanation: The first line of the **/etc/krb.conf** file should contain just the name of the local Kerberos realm, but does not.

User Response: Edit the file to correct the erroneous line and rerun **setup_authent**.

0016-321 A line in the /etc/krb.conf file has invalid format.

Explanation: The line displayed following this message is not in the required format for the **/etc/krb.conf** file.

User Response: Correct the erroneous information and rerun **setup_authent**.

0016-322 The /etc/krb.conf file lists the local host as a server, but not in the local realm.

Explanation: This system is listed as a server in a realm other than the one named on the first line of the **/etc/krb.conf** file. If it is to be a server, it must be in the local realm.

User Response: Correct the problem by either removing the erroneous statement, making this system a client system instead of a server, or change the realm name on the statement or the name of the local realm so they match. Rerun **setup_authent**.

0016-323 *host name* listed in the /etc/krb.conf file as the primary server in the local realm, is unknown.

Explanation: The host command was unable to verify the identity of the host name listed in the **/etc/krb.conf** file as the primary server for the local realm.

User Response: Check that the name is spelled correctly in its fully qualified form on the line. Check that the system is known to your system's name service, however you are providing that function.

0016-324 The /etc/krb.conf file does not list a primary server in the local realm.

Explanation: In order to set up this system as a client system or as a backup server, **setup_authent** needs to know the host name of the primary server. A host name is not listed in the configuration file.

User Response: Add a line to the file or change an existing line that has the wrong realm name or shows only backup servers, then rerun **setup_authent**.

0016-325 An error occurred adding *daemon_name* to the inittab.

Explanation: The **mkitab** command returned an error code.

User Response: Check for system resource problems, perhaps with the root file system.

0016-326 add_principal failed to create the service principals for the local host.

Explanation: The **add_principal** command was invoked to add the service principals for rcmd and hardmon instances on this system. The program returned an error code, indicating that the database was not updated.

User Response: Refer to the information associated with the **add_principal** failure message. Take corrective action and rerun **setup_authent**.

0016-327 ext_srvtab failed to create the server key file.

Explanation: The **ext_srvtab** command was unable to extract the service keys from the local Kerberos database to create the server key file for this system.

User Response: Refer to the information associated with Kerberos or **ext_srvtab** error messages. Take corrective action and rerun **setup_authent**.

0016-328 Unable to contact the primary Kerberos server, *host_name*, to obtain the database.

Explanation: The **rsh** command failed, attempting to send a request to the primary server to propagate its database to this system. This could be a communication problem between the systems or a setup problem with authentication on the primary server. Check TCP/IP connectivity. If the primary refused permission for the **rsh**, check that the **.klogin** file on the primary server system (in root's home directory) contains an entry *user***.admin**@*local_realm*, where *user* is the Kerberos principal name you need to log in.

User Response: If the **.klogin** statement is missing, add it and rerun **setup_authent** (on this system).

0016-329 The kpropd daemon could not be started.

Explanation: The daemon that receives the Kerberos database from the primary server could not be started.

User Response: Check for system messages regarding resource problems.

0016-330 The /etc/krb.conf file is required, but does not exist.

Explanation: When **setup_authent** is run on a client system, an /**etc**/**krb.conf** file must be supplied in order for it to determine where the Kerberos servers are.

User Response: Copy the /**etc**/**krb.conf** file from the primary server in the local realm onto this system and rerun **setup_authent**.

0016-331 The /etc/krb.conf file lists the local host as a Kerberos server, but ssp.authent is not installed.

Explanation: afs authentication is either not available or was not selected, but there is an /**etc**/**krb.conf** file that indicates this system is to be set up as a Kerberos server. In order to do so, the **ssp.authent** option must be installed.

User Response: If the /**etc**/**krb.conf** file is correct, install **ssp.authent**, then rerun **setup_authent**. Otherwise, remove the line

that lists this system as a server and rerun **setup_authent** to setup a client system.

0016-332 Use of this command is not allowed on an SP node.

Explanation: **setup_authent** is used on the control workstation and other workstations on which Kerberos servers and client services are installed. Client services are automatically installed on the SP 2.1 nodes during installation/customization, so this command does not apply to those systems.

User Response: None.

0016-333 Unable to obtain the server key file from the primary Kerberos server, *host_name***.**

Explanation: **setup_authent** was unable to obtain its server key file from the primary server. Either the **rsh** command failed, or the **ext_srvtab** command executed on the primary failed to create the file. This could be a communication problem between the systems or a setup problem with authentication on the primary server. Check TCP/IP connectivity. If the primary refused permission for the **rsh**, check the **.klogin** file on the primary server system (in root's home directory). That file must contain an entry *user***.admin**@*local_realm*, where *user* is the Kerberos principal name you used to log in.

User Response: If the **.klogin** file entry is missing, add it and rerun **setup_authent** (on this system).

0016-334 You entered more than one name.

Explanation: The correct response is the name of a Kerberos user principal that has administrative authority (an **admin** instance).

User Response: Re-enter the Kerberos principal name.

0016-335 The name you entered has incorrect format.

Explanation: The name you entered was neither a simple user name nor a name followed by the **.admin** instance.

User Response: Re-enter a correct Kerberos principal name.

0016-336 The Kerberos configuration files have conflicting information.

Explanation: The **krb.conf** file and **krb.realms** file have conflicting information. The **krb.realms** file maps a server host name to the wrong realm or maps the local host to a realm other than the local realm.

User Response: Correct the **krb.realms** file or delete it if unneeded and re-run the failing command.

0016-337 The host command failed for this system's host name.

Explanation: **setup_authent** issued the **host** command to obtain the full host name for the local system. The **host** command could not perform name resolution.

User Response: Use the **host_name** command to set the correct system host name. Then re-run setup_authent.

0016-350 Usage: *program_name [-afs|-krb] [-r realm] file name instance...*

Explanation: **setup_authent** or **setup_server** invoked the **create_srvtab** command using incorrect syntax.

User Response: Gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-351 Cannot open output file *server_key_file_name***.**

Explanation: The **create_srvtab** command is used within the **setup_authent** and **setup_server** scripts to create a server key file for the control workstation and for every node added to the system. The command cannot create the file specified in the message. The problem could be a lack of space in the filesystems containing the **/tmp** or **/tftpboot** directories or a problem with access control.

User Response: Ensure that the commands are being run under the root userid and that the filesystems containing **/tmp** and **/tftpboot** are not full. Once any problems are corrected, run the **setup_authent** or **setup_server** command again.

0016-352 Cannot obtain local realm name, use the -r option.

Explanation: The **create_srvtab** command encountered an error trying to read the name of the local realm from the /**etc**/**krb.conf** file. The file may not exist or may not be in the proper format.

User Response: Ensure that the file /**etc**/**krb.conf** exists and that the first line of the file contains the name of the local realm starting in column one. Once the problems are corrected, rerun the **setup_authent** or **setup_server** command. If the **create_srvtab** command itself is being run, the **-r** option can be used to specify the name of the realm to be used in creating the **srvtab** files.

0016-353 The file *file_of_server_names_and_keys* **does not exist.**

Explanation: The **setup_authent** and **setup_server** commands call **create_srvtab** to create a set of server key files using the file specified in the message as the input file. The input file should contain the names of the servers and their passwords. If the file does not exist when **create_srvtab** is called, it would indicate an error in **setup_authent** or **setup_server**.

User Response: Gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-354 Insufficient access to read file *file_of_server_names_and_keys*

Explanation: The **setup_authent** and **setup_server** commands call **create_srvtab** to create a set of server key files using the file specified in the message as the input file. The input file should be created by the process calling **create_srvtab**. If the process does not have access to the file, it would indicate an error in **setup_authent** or **setup_server**.

User Response: Gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-355 Error opening file *file_of_server_names_and _keys*

Explanation: The **setup_authent** and **setup_server** commands call **create_srvtab** to create a set of server key files using the file specified in the message as the input file. The input file should be created by the process calling **create_srvtab** If the process cannot open the file for input, it may indicate a filesystem error or an error in **setup_authent** or **setup_server**.

User Response: Check the filesystem containing the file specified in the message. If errors are detected, correct the problems and rerun the **setup_authent** or **setup_server** command. If no filesystem errors are detected, gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-356 Input string *server_name* **cannot be separated into a principal name and instance.**

Explanation: The **create_srvtab** command encountered a server principal name in the input file that cannot be parsed correctly. The name should be of the form *name.instance*. When the **create_srvtab** command is run from within the **setup_authent** or **setup_server** commands, the names within the input file are generated within the commands. An incorrectly formatted name would indicate an error in **setup_authent** or **setup_server** commands.

User Response: Gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0016-357 Error writing output file.

Explanation: The **create_srvtab** command is used within the **setup_authent** and **setup_server** scripts to create a server key file for the control workstation and for every node added to the system. The command encountered an error trying to write a line to an output file. The problem could be due to a lack of space in the filesystems containing the /**tmp** or /**tftpboot** directories or a problem with the physical media on which the filesystem is stored.

User Response: Check the filesystems containing the **/tmp** and **/tftpboot** for errors and to ensure that the filesystems are not full. Once any problems are corrected, run the **setup_authent** or **setup_server** command again.

0016-360 Unable to add interface definition *sequence_number* **for** *interface***.**

Explanation: The **mknimint** failed in an attempt to define an interface for the named communications device.

User Response: Refer to the accompanying NIM error message, take appropriate action, and run the **mknimint** command again.

0016-362 The lsnim -l command failed on *host_name* **with return code** *return_code***.**

Explanation: The **lsnim** command failed on the named system.

User Response: Run the **lsnim -l** command on the named system to reproduce the NIM error message and take appropriate action to correct the problem.

0016-363 Failure copying *config_path*/**bosinst_data.template to** *bosinst_path*/**bosinst_data while attempting to make the noprompt resource.**

Explanation: An error occurred when copying the **/usr/lpp/ssp/install/config/bosinst_data.template** to the **/spdata/sys1/install/pssp** directory while creating a bosinst_data resource.

User Response: Check the permissions of the source file and destination directory, and available disk space, and take appropriate action.

0016-364 Failure copying *config_path* **/bosinst_data_prompt.template to** *bosinst_path*/**bosinst_data_prompt while attempting to make the prompt resource.**

Explanation: An error occurred when copying the **/usr/lpp/ssp/install/config/** **bosinst_data_prompt.template** to the bosinst_data resource.

User Response: Check the permissions of the source file and destination directory, and available disk space, and take appropriate action.

0016-365 Failure copying *config_path* **/bosinst_data_migrate.template to** *bosinst_path* **/bosinst_data_migrate while attempting to make the migrate resource.**

Explanation: An error occurred when copying the **/usr/lpp/ssp/install/config/** **bosinst_data_migrate.template** to the **/spdata/sys1/install/pssp** directory while creating a bosinst_data resource.

User Response: Check the permissions of the source file and destination directory, and available disk space, and take appropriate action.

0016-366 Error defining prompt resource on *host_name***, return code =** *return_code***.**

Explanation: An error occurred when defining the prompt resource.

User Response: Refer to the NIM error message and take appropriate action to correct the problem.

0016-367 Error defining noprompt resource on *host_name***, return code =** *return_code***.**

Explanation: An error occurred when defining the noprompt resource.

User Response: Refer to the NIM error message and take appropriate action to correct the problem.

0016-368 Error defining migrate resource on *host_name***, return code =** *return_code***.**

Explanation: An error occurred when defining the migrate resource.

User Response: Refer to the NIM error message and take appropriate action to correct the problem.

0016-369 Error creating custom bosinst_data file for node *node* on *host_name*.

Explanation: An error occurred when creating a custom bosinst_data resource. A custom bosinst_data resource is required when the *install_disk* of the node object in the SDR is not equal to hdisk0.

User Response: Check the format of the *install_disk* attribute to make sure the node is valid. Check to make sure there is space available in the **/spdata/sys1/install/pssp** directory for the custom bosinst_data file.

0016-370 Error copying *source_file* to *target_file* on *host_name*, return code of *return_code*.

Explanation: An error occurred during a copy operation.

User Response: Examine the source and destination files and directories for possible permission and space errors, and correct the problem.

0016-371 The mkdir of *bosinst_path* on *host_name* failed with return code *return_code*.

Explanation: The **mkdir** command of the named path failed.

User Response: Attempt to **mkdir** the specified directory on the named system to reproduce the error message and take appropriate action.

0016-372 Failed to create the script resource psspscript on *host_name* with return code *return_code*.

Explanation: The creation of the psspscript resource failed.

User Response: Refer to the accompanying NIM error message to determine the appropriate action.

0016-373 An error occurred trying to get all the lppsource_name attributes from the SDR on *host_name*.

Explanation: An **SDRGetObjects** command of all the *lppsource_name* attributes failed.

User Response: Fix the problem with the SDR and run the **SDRGetObjects** command again.

0016-374 The lsnim -t lpp_source failed on *host_name* with return code *return_code*.

Explanation: The **lsnim -t** command failed on the named system.

User Response: Run the **lsnim -t lpp_source** command on the named system to reproduce the NIM error message and take appropriate action to correct the problem.

0016-375 The creation of the lppsource resource named lppsource_*lpp_array* failed with return code *return_code*.

Explanation: An error occurred during creation of the lppsource_resource on the control workstation.

User Response: Refer to the accompanying NIM error message and take appropriate action.

0016-376 Definition of the lpp_source resource named lppsource_*lpp_array* failed on node *node_number*.

Explanation: An error occurred while attempting to define the lpp_source resource on a boot/install server (NIM master).

User Response: The boot/install server must be able to route to the control workstation over the networks defined to NIM to successfully define the lppsource resource. Check to make sure that all ethernet and token ring interfaces on both the control workstation and the boot/install server are defined to NIM, and that a route is available. Use the **mknimint** command to define networks, or run the setup_server again.

0016-377 Making the NFS export (mknfsexp) of *lpp_source_directory* failed with return code *return_code*.

Explanation: An attempt to make an NFS export for the named directory using the **mknfsexp** command failed.

User Response: Check the /etc/exports file for possible errors. If necessary, stop and start the NFS again and run the **mknimres** command again.

0016-378 The mkdir of *images_path* on *host_name* failed with return code *return_code*.

Explanation: The **mkdir** command of the named directory failed.

User Response: Try to create the named directory using the **mkdir** command and take appropriate action from the AIX error message.

0016-379 Error attempting to do an SDRGetObjects of the Syspar_map object on *host_name* with return code *return_code*.

Explanation: An **SDRGetObjects** command failed for Syspar_map.

User Response: Try to correct the SDR error and run the **mknimres** command again.

0016-380 Error attempting to do an SDRGetObjects of the Syspar_name object on *host_name* with return code *return_code*.

Explanation: An **SDRGetObjects** command failed for Syspar_name.

User Response: Try to correct the SDR error and run the **mknimres** command again.

0016-381 Error attempting to do an SDRGetObjects of the Node object on *host_name* with return code *return_code*.

Explanation: An **SDRGetObjects** command failed for the node object.

User Response: Try to correct the SDR error and run the **mknimres** command again.

0016-382 A mksysb by the name of *mksysb_names_array* does not exist on the control workstation; therefore the mksysb resource cannot be created by nim.

Explanation: The necessary mksysb files do not exist in the **/spdata/sys1/install/images** directory on the control workstation. The **mknimres** command could not continue.

User Response: Display all the mksysb image names for all clients of the book/install server using the **splstdata** command, and make sure that the necessary mksysb images exist on the control workstation. When the mksysb images are available on the control workstation, run **mknimres** again.

0016-383 Could not get size of *mksysb_names_array* on the control workstation, return code of *return_code*.

Explanation: The get_size program failed on the control workstation.

User Response: Run **/usr/lpp/ssp/install/bin/get_size** of the named file on the control workstation to reproduce the error message and take appropriate action.

0016-384 Failed to make logical volume or file system for mksysb image on *host_name*.

Explanation: The creation of the logical volume for a mksysb file failed on a boot/install server.

User Response: Make sure that there is enough space in the rootvg to create the mksysb logical volume and run the **mknimres** command again.

0016-385 The rcp of mksysb *mksysb_names_array* failed with return code *return_code*.

Explanation: A remote copy of a mksysb from the control workstation to a boot/install server failed.

User Response: Make sure that the mksysb exists on the control workstation, the permissions are set properly, there is adequate

space on the boot/install server for the mksysb, and authentication permits the rcp, and run the **mknimres** commmand again.

0016-386 Failed to define a mksysb resource named *temporary_resource_name* **on** *host_name* **with return code** *return_code***.**

Explanation: Although the mksysb file was successfully copied from the control workstation to the boot/install server node, the NIM definition of the mksysb failed.

User Response: Refer to the NIM error message for additional information and appropriate action.

0016-387
Error attempting to do an SDRGetObjects of the lppsource_name from *host_name* **with return code** *return_code***.**

Explanation: An **SDRGetObjects** for the *lppsource_name* attribute failed.

User Response: Fix the SDR problem and run the **mknimres** command again.

0016-388 The lsnim -t spot failed on host *host_name* **with return code** *return_code***.**

Explanation: The **lsmin -t <spot>** command failed on the named system.

User Response: Try to run the **lsnim -t <spot>** or the **lsnim -l** command on the named system, and refer to the NIM error message for additional information.

0016-389 The mkdir of *install_path*/*spot_array*/**spot on** *host_name* **failed with errno** *return_code***.**

Explanation: The **mkdir** command of the named directory failed.

User Response: Try to create the named directory on the named system using the **mkdir** command, take appropriate action to correct the problem, and run the **mknimres** command again.

0016-390 Failed to make logical volume or file system for *install_path*/*spot_array*/**spot on** *host_name***.**

Explanation: Either the creation of the logical volume or file system for the spot failed.

User Response: Make sure that there is enough space on the rootvg for the sport and run the **mknimres** command again.

0016-391 Failed to define the spot named spot_*spot_array* **at location** *install_path*/*spot_array*/**spot on** *host_name* **with return code** *return_code***.**
return code

Explanation: The spot creation failed.

User Response: Refer to the NIM error message for additional information and corrective action.

0016-392 SDRGetObjects on node *node_number* **failed with return code** *return_code***.**

Explanation: The **SDRGetObjects** command failed.

User Response: Fix the **SDRGetObjects** error and run the **mknimres** command again.

0016-393 The splst_versions command failed with return code *return_code***.**

Explanation: The **splst_versions** command failed.

User Response: Check to make sure that the splst_versions exists in the **/usr/lpp/ssp/bin** directory, the permissions are correct, and run the **mknimres** command again.

0016-394 Error creating directory *PSSP_lpp_path* **on** *host_name***.**

Explanation: The **mkdir** command failed for the named directory.

User Response: Try to create the named directory on the named system using the **mkdir** command, and take appropriate action based on the **mkdir** error message.

0016-395 Could not get size of *PSSP_lpp_path*/*code_version*-*code_index*-/pssp.installp on control workstation, return code of *return_code*.

Explanation: The **get_size** program failed on the control workstation.

User Response: Run **/usr/lpp/ssp/install/bin/get_size** of the named file on the control workstation to reproduce the error message, and take appropriate corrective action.

0016-396 Failed to make logical volume or file system for pssplpp on *host_name*.

Explanation: Either the creation of the logical volume or file system for the pssplpp failed.

User Response: Make sure that there is enough space on the rootvg for the pssplpp, and run the **mknimres** command again.

0016-397 Error creating directory *PSSP_lpp_path*/*code_version*-*code_index*-on *host_name*.

Explanation: The **mkdir** failed for the named directory.

User Response: Try to create the named directory on the named system using the **mkdir** command, and take appropriate action based on the **mkdir** error message.

0016-398 The rcp of pssplpp *code_version*-*code_index*- failed with return code *return_code*.

Explanation: A remote copy of a pssplpp from the control workstation to a boot/install server failed.

User Response: Make sure that the pssplpp exists on the control workstation, permissions are set properly, there is enough space on the boot/install server for the pssplpp, and authentication permits the rcp, and run the **mknimres** command again.

0016-399 The lsnim -Za Rstate command on *host_name* for resource *resource_name* failed with return code *return_code*.

Explanation: An attempt to determine the state of the NIM resource failed.

User Response: Run the **lsnim -Za Rstate <resource name>** on the boot/install server to see the NIM error message, take appropriate corrective action, and run the **mknimres** command again.

0016-400 Creation of the *resource_name* resource apparently failed, since the Rstate is not -'ready for use-'. Check previous messages for possible cause.

Explanation: The definition of a NIM resource completed, but the Rstate was not set to *ready for use*.

User Response: The resource is not usable in its present state. You can issue an **lsnim -l <resource name>** to view the state of the resource, and attempt to take corrective action. If this is not helpful, issue a **nim -o delete <resource name>** on the boot/install server, and run the **mknimres** command again to attempt to recreate the resource.

0016-401 The lsnim -Za simages command on *host_name* for resource *resource_name* failed with return code *return_code*.

Explanation: The NIM **lsnim -Za simages** command failed on the control workstation for the named lpp_source.

User Response: Try to run the **lsnim -Za simages** on the control workstation to reproduce the NIM error message, and take appropriate corrective action.

0016-402 Creation of the lpp_source *resource_name* succeeded; however, some of the support images (simages) were missing. Installation of further systems is not possible with this lpp_source.

Explanation: The lpp_source resource was defined, however simages was set to *no*.

User Response: The simages attribute describes whether all the necessary filesets exist in the **lpp_source** directory to successfully install a node. If simages=yes, the necessary filesets exist. If simages=no, some filesets are missing.

At the conclusion of the **mknimres** command, if simages=no, the lppsource_resource is deleted, since it is not usable. Refer to the *IBM Parallel System Support Programs for AIX: Installation and Migration Guide* for the list of required filesets, update the lppsource directory, and run the **mknimres** command again.

0016-403 Timed out waiting to get lock on *control_workstation_name* **for lpp_source** *source_level***.**

Explanation: After waiting 30 minutes for the lock to free up for the **lppsource** directory, **mknimres** exited.

User Response: This error probably occurred due to a lock problem. Make sure that the owner of the lock still requires the lock by issuing the **cat** command on the lock file. The lock is only required during the inutoc of the **lppsource** directory on the control workstation. If you are certain that the node that has locked the **lppsource** directory no longer needs the lock, erase it using the **rm** command, and rerun **mknimres**. The lock is in **lppsource** directory on the control workstation, and is named **lppsource.lock**.

0016-404 Unable to remove the lock for the lpp_source resource *source_level* **owned by** *node_name***; continuing with mknimres.**

Explanation: A node is done with the lppsource lock, however, it could not remove the lock to free it for the next node.

User Response: Display the lock file using the **cat** command. If the lock is no longer required by the owner, delete the lock using the **rm** command, and run the **mknirmes** command again. The lock is in the lppsource directory on the control workstation, named **lppsource.lock**.

0016-405 Caught signal SIG*signal_number***, exiting after freeing the lppsource lock.**

Explanation: The **mknimres** command was interrupted by a signal and is exiting after freeing the lppsource lock.

User Response: No action required.

0016-406 Exiting as result of QUIT, INT or TERM signal.-n

Explanation: The **mknimres** command is exiting due to a user signal.

User Response: No action required.

0016-407 Refer to /tmp/spot.out.26724 for more debug information.

Explanation:

User Response: No action required.

0016-422 Incorrect number of operands.

Explanation: An incorrect number of operands was specified on the command line.

User Response: Correct the error and reissue the command.

0016-423 Invalid operand.

Explanation: An invalid operand was specified on the command line.

User Response: Correct the error and reissue the command.

0016-424 File *file name* **does not exist.**

Explanation: The specified file name does not exist.

User Response: Reissue the command specifying an existing file name.

0016-425 Error encountered while copying to /tftpboot/tuning.cust (rc=*return code***)**

Explanation: An error was encountered while copying the file to /tftpboot/tuning.cust. The return code is the exit value returned by the cp command.

User Response: Use the return code to determine why the cp command failed.

0016-426 Error encountered while setting permissions for /tftpboot/tuning.cust (return code=*return code*)

Explanation: An error was encountered while setting file permissions for /tftpboot/tuning.cust. The return code is the exit value returned by the chmod command.

User Response: Use the return code to determine why the chmod command failed.

Chapter 27. 0017 - Print Management Messages

0017-001 Command *command* is not supported by the remote print management function.

Explanation: The command is not known to the program.

User Response: Verify that you entered a supported command.

0017-002 0017-002 Argument *file name* is not an accessible file.

Explanation: The file does not exist or does not have read permissions.

User Response: Verify that you specified the correct file, or change the permissions.

0017-003 Argument *option* is not a supported option for this command in the remote print management function.

Explanation: The option is not known to the program.

User Response: Verify that you entered a supported option.

0017-004 Cannot open pipe to pmbec for STDIN: *error code*.

Explanation: The remote print management function cannot locate pmbec.

User Response: Check the message following this one. If another message is not displayed, then verify that pmbec exists with proper permissions. Verify the AIX pipe command works properly.

0017-005 Failed system call to pmbec, exit code *error code*.

Explanation: The remote print management function cannot locate pmbec.

User Response: Check the message following this one. If another message is not displayed, then verify that pmbec exists with proper permissions. Verify the AIX pipe command works properly.

0017-006 Cannot open pipe to rsh, error code: *error code*.

Explanation: **rsh** permission has been denied at the Print Host.

User Response: Verify the user issued **kinit** and is in the Kerberos database. For non-Kerberos users, verify the contents of **/etc/hosts.equiv** if in open mode or the Print Management id **.rhosts** file if in secure mode. Verify rsh privileges for the host and user.

0017-007 Failed system call, cannot rsh, errno: *error code*.

Explanation: **rsh** permission has been denied at the Print Host.

User Response: Verify the user issued **kinit** and is in the Kerberos database. For non-Kerberos users, verify the contents of **/etc/hosts.equiv** if in open mode, or the Print Management id **.rhosts** file if in secure mode. Verify rsh privileges for the host and user.

0017-009 You are not authorized to cancel print job *job number*.

Explanation: Only the owner of a print job can cancel a print job. Root on the Print-Receptor host can cancel any print job.

0017-010 Argument *option* is not a supported option for *command* in the remote print management function under secure mode.

Explanation: The option is not known to the program.

User Response: Verify that you entered a supported command.

0017-011 Failed pipe call, cannot rsh, errno: *error code*.

Explanation: **rsh** permission has been denied at the Print Host.

User Response: Verify the user issued **kinit** and is in the Kerberos database. For non-Kerberos users, verify the contents of

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/etc/hosts.equiv if in open mode, or the Print Management id **.rhosts** file if in secure mode. Verify rsh privileges for the host and user.

0017-012 Failed pipe call to pmbec, exit code: *error code***.**

Explanation: **rsh** permission has been denied at the Print Host.

User Response: Check the message following this one. If another message is not displayed, then verify pmbec exists with proper permissions. Verify the AIX pipe command works properly.

0017-013 Required file, pmbec, not found in /usr/lpp/ssp/bin.

Explanation: The required file, **pmbec**, does not exist or has incorrect permissions.

User Response: Verify this file is in **/usr/lpp/ssp/bin** and has execute permissions. If the file was not installed, check the install medium for a copy. If no copy exists, follow local procedures for reporting software problems.

0017-014 PRINT_HOST environmental variable not defined, the Print Management function cannot continue. Set PRINT_HOST with the fully-qualified hostname of the Print Host.

Explanation: The environmental variable PRINT_HOST must be set with the domain name of the host where the print jobs will be accepted.

User Response: Set PRINT_HOST with the fully-qualified hostname of the print-receptor host.

0017-015 Hostname command failed, the Print Management function cannot continue. Notify your System Administrator.

Explanation: The AIX hostname command failed.

User Response: Verify the host name is set on all file servers and nodes. Verify the hostname command works properly.

0017-016 Cannot update *file name* **with customer selected print id name.**

Explanation: The search and change of the *printid* could not be performed.

User Response: Edit the **pmbe** file at the line

```
"$secureid='prtid=';"
```

changing *prtid* to your chosen id. Leave the semicolon, which will be stripped by the program.

0017-017 Environment variable, *PRINT_CONFIG***, has not been set with the proper value.**

Explanation: An error occurred in the installation scripts.

User Response: Set the environment variable *PRINT_CONFIG* to `OPEN`, `SECURE` or `FALSE` and run **/usr/lpp/ssp/install/bin/print-config**.

0017-018 A value is required for flag *flag_name***.**

Explanation: You did not supply a value for the given flag.

User Response: Reissue the command with a proper value for the flag.

Chapter 28. 0018 - supper Messages

0018-225 Activate must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-226 Cannot locate an active volume group.

Explanation: Activate of volume group failed. Verify that the volume group exists (using **lsvg** command) or specify an existing volume group.

0018-227 Cannot open *file name***:** *error code***.**

Explanation: **supper** was not able to open the file. If the file is a log in /**var**/**ssp**/**logs**, make sure that the directory exists. Check permissions of the directory.

0018-228 Collection *collection name* **is not available.**

Explanation: The collection specified is not a valid file collection for this system to install or update. Use **supper status** and **supper where** to determine which file collections are available.

0018-229 Collection *collection name* **is not installed.**

Explanation: The update for this collection failed because this collection has not been installed.

0018-230 File information for collection *collection name* **is not available.**

Explanation: The file information comes from /**var**/**ssp**/**sup**/*file_collection*/**last**. Either this file collection is not installed, this is the system where the file collection originates, or this file was removed. Use **supper status** to see if the file collection has been installed.

0018-231 Install must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-232 Invalid supper command. Please reenter command or ? for command list.

Explanation: You have entered a **supper** command that is not valid. Use **supper ?** to see the valid list of **supper** commands or check the **supper** syntax in the *IBM Parallel System Support Programs for AIX: Command and Technical Reference*.

0018-233 Offline must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-234 Online must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-235 Reset must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-236 Remove must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-237 Scan must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-238 Server for collection *collection name* **is not available.**

Explanation: **supper** was not able to find a server for the requested file collection. Refer to the chapter on managing file systems in *IBM Parallel System Support Programs for AIX: Administration Guide* to determine which system should serve the file collections. Issue **supper**

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-s *server name file collection* to specifically request the appropriate server.

0018-239 Unknown parameter: *option***.**

Explanation: The option specified is not a valid option.

0018-240 Update must be run with root authority.

Explanation: Log in as **root** and reissue the command.

0018-241 Volume group must be activated before installing collections.

Explanation: The file collection specified is contained in a file system. In order for the file system to be created you must have an active volume group. Use **supper disks** to see the volume groups that you have defined and the amount of free space associated with them. Use **supper activate** *volume group* to activate a volume group. Then reissue the **supper install** command.

0018-242 Volume group *volume group name* **does not exist.**

Explanation: The volume group specified does not exist. Use **supper disks** to see the volume groups that you have defined and the amount of free space associated with them. Choose one of these volume groups for the **supper activate** *volume group name* command.

0018-243 WARNING: Cannot delete file system *file system name***.**

Explanation: **/etc/rmfs** failed while attempting to remove the file system associated with this file collection. **supper** will continue to remove the master files associated with this file collection. Use **smit** to determine why the file system was not removed.

0018-244 WARNING: Server *host server name* **is busy. Will retry in** *seconds* **seconds.**

Explanation: The SUP server for this file collection is busy serving other clients. You can either let **supper** continue to attempt to install or update the file collection or retry at a later time. If this message persists, check that **supfilesrv** is running on the server. You can also check to see if the **supman** user id is valid on both systems using **ypcat -k passwd | grep supman**. Use the **-v -d** options to see more information.

0018-245 Process Terminated by SIG*signal***.**

Explanation: A signal was received and the **supper** process was terminated.

0018-246 Collection *collection name* **cannot be installed on this machine.**

Explanation: This file collection cannot be installed on this system because it is the wrong architecture.

0018-255 Collection *collection name* **cannot be installed.**

Explanation: **supper** was unable to install this file collection. Check the other messages to see if there is an existing mount point or file system with this name.

0018-256 Collection *collection name* **cannot be removed.**

Explanation: **supper** was not able to find the file collection information for this file collection. The file collection may be defined as resident in **/var/ssp/sup/.resident**, but the information in the master files is missing. Remove the entry for this file collection from the **/var/ssp/sup/.resident** file.

0018-257 Collection *collection name* **cannot be scanned.**

Explanation: **supper** was not able to find the file collection information for this file collection. The file collection may be defined as resident in **/var/ssp/sup/.resident**, but the information in the master files is missing. Remove the entry for this file collection from the **/var/ssp/sup/.resident** file.

0018-258 Update of collection *collection name* **failed.**

Explanation: **supper** could not install or update the file collection. This message is always followed with another message for further definition. Issue **supper rlog** to check for more information on the failure.

0018-260 Cannot create the *file system name* **file system.**

Explanation: **/etc/crfs** failed while attempting to create the specified file system.

0018-261 Cannot create a logical volume for the *file system name* **file system.**

Explanation: **/etc/mklv** failed while attempting to create the logical volume for this file system.

0018-262 Cannot determine free disk space.

Explanation: **supper** was not able to determine the amount of free disk space.

0018-263 Cannot erase directory.

Explanation: **supper** was not able to move the directory to a **.DELETEME** directory for cleanup at a later time. Check the file system directory to see if it exists and is accessible.

0018-264 Cannot make mount point for the *file system name* **file system.**

Explanation: **supper** could not create the mount point for this file system. Check to see if there is already a mount point with this name.

0018-265 Cannot mount the *file system name* **file system.**

Explanation: **/etc/mount** failed for the specified file system. As part of the file collection installation, the file system was added to **/etc/exports** and exported. Check **/etc/exports** for the proper permissions and definition.

0018-266 Cannot unmount the *file system name* **file system.**

Explanation: **/etc/unmount** failed for this file system. The file system cannot be removed because it was not mounted. Mount the file system and reissue the **supper** command.

0018-267 Collection locked.

Explanation: There is an update process already running for the collection. **supper** attempts to lock each collection.

0018-268 Collection offline.

Explanation: An attempt was made to update or install a collection that was marked offline.

0018-269 Connection failed.

Explanation: The connection to the SUP server failed. This usually indicates that the SUP file server daemon (**/usr/agora/etc/supfilesrv**) was not running on the server. The SUP file server may die if there are network problems.

0018-270 Error in Supfile.

Explanation: **supper** was unable to generate the **supfile** necessary for updating this collection. This may happen when the **/tmp** file system is full.

0018-271 Insufficient disk space.

Explanation: The targeted file system ran out of space during the update.

0018-272 Insufficient disk space in the *file system name* **file system.**

Explanation: The targeted file system ran out of space during the update.

0018-273 Insufficient disk space in the *volume group name* **volume group.**

Explanation: There is not enough space for the specified file system in this volume group. Increase the amount of space in this volume group or select another volume group that has enough space using **supper disks** and **supper activate** *vg*.

0018-274 Local collection.

Explanation: This file collection is defined as a local file collection.

0018-275 Lock file error.

Explanation: **supper** was unable to create the collection lock file. This error can occur if the file system containing the **supper** files (/**var**) is full.

0018-276 Login failed.

Explanation: The SUP client was unable to successfully log into the SUP server machine.

0018-277 Collection data not available.

Explanation: **supper** could not find the collection information for this collection. This can occur if a machine has a resident collection that is no longer a valid collection.

0018-278 Server not available.

Explanation: **supper** was unable to locate a server for this collection. This is usually caused by an external network problem. You can use the **supper where** command to simulate the server location process. The **debug** option is useful in these cases.

0018-279 Permission Denied.

Explanation: The client machine does not have permission to install this collection. Private collections may have a restricted access list.

0018-280 Prefix file error.

Explanation: **supper** created the file collection directory /**var**/**ssp**/**sup**/*file_collection* and attempted to create the **prefix** file /**var**/**ssp**/**sup**/*file_collection*/**prefix**. Check to see if the new directory exists for this file collection with the permissions 755.

0018-281 Primary collection does not exist.

Explanation: The **scan** failed for a secondary file collection because its primary file collection does not exist.

0018-282 Primary collection *collection name* **is not resident.**

Explanation: The **scan** failed for a secondary file collection because its primary file collection is not resident.

0018-283 Refuse list error.

Explanation: **supper** created the file collection directory /**var**/**ssp**/**sup**/*file_collection* and attempted to create the **refuse** file /**var**/**ssp**/**sup**/*file_collection*/**refuse**. Check to see if the new directory exists for this file collection with the permissions 755.

0018-284 Server error.

Explanation: The connection to the SUP server was broken while transferring files.

0018-285 Supfile not found.

Explanation: The SUP program was not able to open one or more of the master files on the **supfile** server. Use **supper -v -d** command to get more information from the **supper** and SUP messages or use **supper rlog** to see the information in raw format. Log in to the server and check the file collection directories in /**var**/**ssp**/**sup**/*file_collection* to see if they have been corrupted.

0018-286 Supfile Error.

Explanation: **supper** was unable to generate the **supfile** necessary for updating this collection. This generally occurs when the /**tmp** file system is full.

0018-287 Server busy.

Explanation: A connection was refused by the SUP server. This message indicates that the SUP server was already serving the maximum number of clients. This limit is currently set to 8. This error message is usually preceded by messages indicating that **supper** was unable to connect but will retry. The retry period lasts approximately two minutes, after which the update is aborted.

0018-288 Collection is not resident.

Explanation: **supper** was attempting to scan a primary file collection that is not resident. **supper** verifies if a file is resident by looking in the **/var/ssp/sup/.resident** file. To make the file collection resident, issue **supper install** *file_collection* where *file_collection* is the primary file collection in question.

0018-289 An error occurred while trying to update the file /var/sysman/file.collections. You need to update the /var/sysman/file.collections file with the required file collection lines from the updated file /usr/lpp/ssp/filec/file.collections.

Explanation: /usr/lpp/ssp/install/bin/filec_config found that the file /usr/lpp/ssp/filec/file.collections has been updated and encountered an error while trying to update the file /var/sysman/file.collections.

User Response: You need to update /var/sysman/file.collections with the required file collections lines from the file /usr/lpp/ssp/filec/file.collections.

Chapter 29. 0019 - Login Control Messages

0019-001 Invalid user, *username***. User may not have an account on this system. spacs_cntrl continuing to process valid users, if any.**

Explanation: The user id name could not be found on the node where **spacs_cntrl** was invoked.

User Response: Verify the user has a valid account on the node.

0019-002 Cannot open file *file name***.**

Explanation: File may not exist or the permissions may not be correct.

User Response: Verify the file exists and has the permissions -rwx------.

0019-003 Cannot obtain lock for file *file name***.**

Explanation: File may be in use by another instance of **spacs_cntrl**.

User Response: If the Resource Manager is running and has been allowed to use login control, stop the Resource Manager and issue the command again. If the Resource Manager is not running or has not been allowed to use login control, then check the /**var**/**spacs** directory for files with .lck appended. If the Resource Manager is not running or has not been allowed to use login control, erase this file and reissue the command.

0019-004 Cannot open file *file name* **for read access.**

Explanation: File may not have read permission or may not exist.

User Response: Verify file exists with permissions -rw-------.

0019-005 Error updating file *file name***.**

Explanation: An error occurred updating stated file.

User Response: Make sure the file exists and is writable for the proper user/group. Then try rerunning the program that gave the error.

0019-006 Cannot open file *file name* **for write access.**

Explanation: File may not have read permission or may not exist.

User Response: Verify file exists with permissions -rw-------.

0019-007 Cannot access *file name* **or another major error occurred. Error value** *error value***. Contact your System Administrator.**

Explanation: The failure could be one of four reasons: no access, invalid argument, invalid pointer, or a bad attribute.

User Response: Check the file permissions on /**etc**/**security**/**user**. Check the attributes and values in /**etc**/**security**/**user** for validity. Otherwise gather information about the problem and follow local site procedures for reporting hardware and software problems.

0019-008 Cannot open log file, *file name***. Messages will not be logged.**

Explanation: File may not exist or the permissions may not be correct.

User Response: Verify that the file exists and has the correct permissions.

0019-009 Cannot access *file name***. File does not exist or does not have read permissions.**

Explanation: File may not exist or the permissions may not be correct.

User Response: Verify the file exists and has the correct permissions.

0019-010 Invalid flag: *flag***. Valid flags are: l,d,v,s,n and f.**

Explanation: An invalid flag was used on the command line.

User Response: Reissue command with valid flags.

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0019-011 Invalid keyword: *keyword*. **Valid keywords are allow, deny, block and unblock.**

Explanation: An invalid keyword was used on the command line.

User Response: Reissue command with a valid keyword.

0019-012 At least one user id name is required.

Explanation: A user id name was not listed on the command line or in the file used with the -f flag.

User Response: Reissue command with at least one user id name.

0019-013 Cannot unlock file *file name*.

Explanation: There is a <file name>.lck file in **/var/spacs** that cannot be unlocked or does not exist.

User Response: Ensure that the file exists. If the file does not exist, use the **-d** and **-l** flags to try to recreate the problem. The file should be recreated, locked, and unlocked without errors. If errors appear, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0019-014 System file /etc/security/user does not exist or does not have read/write permissions.

Explanation: The system file does not exist or have read/write permissions for root.

User Response: Check that the **/etc/security/user** file exists and has the correct permissions.

0019-015 Cannot open user database. Check permissions on the /etc/security/user file.

Explanation: The program could not access the user information.

User Response: Check permissions on the /etc/security/user file in this case.

0019-016 Cannot update user database. *User*, *Attribute*, *Value*, *Action*, *Error*

Explanation: The program could not write the attribute or commit the attribute to the user database.

User Response: Check the permissions on the **/etc/security/user** file.

0019-017 You must be root to run this command.

Explanation: A user other than root attempted to run spacs_cntrl.

User Response: Only root has permissions to run this command.

0019-018 Removing user root from input list of users.

Explanation: The root user is never denied access.

0019-019 Cannot create directory *directory name*.

Explanation: The directory could not be created.

User Response: Check the AIX mkdir command. If necessary, create the directory by hand.

0019-020 Cannot resolve netgroups. NIS is not running. Continuing with valid users if any.

Explanation: NIS is not running on the system.

User Response: Start or restart NIS on the proper node.

0019-021 Invalid netgroup name: *netgroup name*. **Continuing with valid non-netgroup users if any.**

Explanation: The netgroup name given or the netgroup name embedded in another netgroup was invalid according to the **ypmatch** command.

User Response: Reissue the **spacs_cntrl** command with the proper netgroup name or

update the embedded netgroup before running **spacs_cntrl** again.

0019-022 No entries found in the netgroup for users. Continuing with valid users if any.

Explanation: The netgroup specified or any embedded netgroups did not have entries for users.

User Response: Rerun **spacs_cntrl** with the proper netgroup name.

0019-023 System Error. Type used for netgroups invalid.

Explanation: An internal error occurred.

User Response: Gather information about the problem and follow local site procedures for reporting problems.

Chapter 30. 0020 - Accounting Messages

0020-001 Cannot open file *file name***.**

Explanation: File may not exist or the permissions may not be correct.

User Response: Verify the file exists and has the permissions -rw-rw-r--.

0020-002 Cannot write to *file name***.**

Explanation: An error was encountered while attempting to write to the file. There may not have been free space remaining on the device containing the file.

User Response: Verify that there is space left on the device by issuing the **df** command

0020-003 *string***: 0020-003 Cannot read** *file name***.**

Explanation: An error was encountered while attempting to read the file.

User Response: Verify the file exists and has permissions set to `-rw-rw-r--`.

0020-004 The /var/adm/acct/nite/jobrecs file contains records that are not start or end job records.

Explanation: The **/var/adm/acct/nite/jobrecs** file was discovered to contain an accounting record with a command name that was not **SJSJSJSJ** or **EJEJEJEJ**.

User Response: Verify the contents of the **/var/adm/acct/nite/jobrecs** file.

0020-005 Cannot Truncate *file name***.**

Explanation: Could not open the file for writing.

User Response: Verify the file has permissions set to `-rw-rw-r--`

0020-006 2 CRONS or Accounting Problems

Explanation: More than one instance of the program attempted to execute at the same time.

User Response: Verify that the program appears in only one **crontab** file, if the program is executed out of **cron**.

0020-007 ERROR: locks found, run aborted

Explanation: The lock file, which ensures that only one instance of the program runs at a time, was found to already exist.

User Response: Verify that multiple instances of the program were not being executed at once (via **cron**, for instance) and then issue:

`rm -f /var/adm/acct/nite/lock*` if the problem was with **runacct**
`rm -f /var/adm/cacct/lock*` if the problem was with **crunacct**.

0020-008 Insufficient space on /dev/%$s (*number* **blks); Terminating procedure**

Explanation: The device holding the filesystem in which accounting was to be run was found to contain insufficient space for accounting to complete.

User Response: Make room on the device and then rerun accounting. If you are attempting to rerun accounting in the same day, you must edit the lastdate file to contain the previous day's date in the form YYYYMMDD.

0020-009 ERROR: acctg already run for *date***: check** *file name*

Explanation: The lastdate file indicates accounting was already run on the specified date.

User Response: Verify that accounting has not yet completed for the date indicated.

Examine the contents of **/var/adm/cacct/statefile** (for **crunacct**) or **/var/adm/acct/nite/statefile** (for **nrunacct**). Should the **statefile** contain something other than COMPLETE, examine the active file for the

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date. Correct any errors, edit the lastdate file to contain the previous day's date in the form YYYYMMDD, and rerun the program at the appropriate step.

0020-010 ERROR: called with arguments that are not valid

Explanation: The wrong number of arguments was passed to the specified command

User Response: Rerun the command with the correct number of arguments.

0020-011 ERROR: turnacct switch returned *return code*

Explanation: An error was encountered when attempting to switch **pacct** files.

User Response: Examine the **/var/adm/acct/nite/accterr** file for messages issued by the **turnacct** command.

0020-012 ERROR: *file name* **already exists. File setups probably already run**

Explanation: When the SETUP step of **nrunacct** attempted to rename the **pacct** files, it was discovered that the renaming had already been done.

User Response: Verify that all portions of the SETUP step have completed, and restart **nrunacct** at the **WTMPFIX** step.

0020-013 *file name* **already exists: run setup manually**

Explanation: In the **SETUP** step of **nrunacct** it was discovered that a **wtmp**.YYYYMMDD file already existed for the date being processed.

User Response: Ensure that all portions of **SETUP** have been executed manually for the date being processed and rerun **nrunacct** at the **WTMPFIX** step.

0020-014 ERROR: wtmpfix errors. See *file name*

Explanation: An error was encountered running the **wtmpfix** command against the wtmp file, to make corrections to the accounting records.

User Response: Examine the **/var/adm/acct/nite/wtmperror**YYYYMMDD file and correct the specified **wtmp** file problems.

0020-015 Accounting already run for *file name*. **Remove** *file name*/*string* **to rerun.**

Explanation: The PROCESS accounting step was already run for this date.

User Response: Remove the specified files to rerun the **PROCESS** step for this date.

0020-016 An error occurred while executing the acctmerg program. pacct files will be restored in order to prevent the loss of accounting data and all intermediate lock files will be removed.

Explanation: An error was encountered in the **acctmerg** program, when the **pacct** files were being merged in the **MERGE** step of **nrunacct**.

User Response: Examine the **/var/adm/acct/nite/accterr** file for error messages generated by **acctmerg**.

0020-017 ERROR: state is not valid, check state

Explanation: An attempt was made to begin **nrunacct** processing at an unrecognized state. The valid states are: `SETUP`, `WTMPFIX`, `CONNECT1`, `CONNECT2`, `PROCESS`, `MERGE`, `FEES`, `DISK`, `QUEUEACCT`, `CMS`, `USEREXIT` and `CLEANUP`.

User Response: Rerun **nrunacct** and specify a valid state.

0020-018 A valid seconds per charge fee unit was not found in /var/adm/acct/nite/jobcharge.

Explanation: The jobcharge value for exclusive use of the node (as placed in the **/var/adm/acct/nite/jobcharge** file from the **acct_job_charge** attribute of the SDR Node Object for this node) was not found or was not a floating point number.

User Response: Verify that the **/var/adm/acct/nite/jobcharge** file exists and contains a floating point number. Verify that the file contains the value of the **acct_job_charge** attribute of the Node Object for this node.

Update the value of the **acct_job_charge** attribute, if it contains an invalid value.

0020-019 The previous run of crunacct failed. See *file name* **and the** *file name* **file for the previous run for more information.**

Explanation: The **/var/adm/cacct/statefile** indicates the previous run of **crunacct** failed.

User Response: Examine the **/var/adm/cacct/active** file for the previous run to determine why it failed. Rerun **crunacct** with -r option after correcting the problem.

0020-020 crunacct [-r [*state*]].

Explanation: The **crunacct** command was invoked incorrectly.

User Response: Examine the usage message and invoke **crunacct** again.

0020-021 crunacct can only be run on the accounting master node

Explanation: An attempt was made to execute the **crunacct** command on a node other than the accounting master (as defined by the **acct_master** attribute of the SP System Data Repository object).

User Response: Rerun the **crunacct** command on the accounting master.

0020-022 Attempt to begin processing at an invalid state.

Explanation: An attempt was made to begin **crunacct** processing at an unrecognized state. The valid states are `SETUP`, `DELNODEDATA`, `MERGETACCT`, `CMS`, `USEREXIT` and `CLEANUP`.

User Response: Rerun **crunacct** and specify a valid state.

0020-023 0020-023 Usage: cprdaily [-l] [yyyymmdd] [-c]

Explanation: The **cprdaily** command was invoked incorrectly.

User Response: Examine the usage message and invoke **cprdaily** again.

0020-024 Cannot print command exception reports except for *date*

Explanation: An attempt was made to print a command exception report for a day other than the current date.

User Response: Issue `cprdaily -c` to produce a command exception report for the current date.

0020-025 Could not communicate with node *number***.**

Explanation: The **crunacct** command could not communicate with the specified node to access its accounting data.

User Response: The account master could not connect to the node because the node was not available during the processing of the **crunacct** command. Make sure the node is available for the next processing of the **crunacct** command.

0020-026 There is not a statefile for node *node number* **for this cycle.**

Explanation: A **/var/adm/acct/nite/statefile** was not found on the specified node for the accounting cycle being processed.

User Response: Verify that **nrunacct** was executed for the cycle on the specified node, if accounting is enabled for that node and the cycle is a date for which you expect accounting to have been run.

0020-027 The statefile for node *number* **for this cycle does not say COMPLETE.**

Explanation: A **/var/adm/acct/nite/statefile** was found on the specified node for the accounting cycle being processed, however it indicated that the **nrunacct** script had not successfully completed processing.

User Response: Examine the **/var/adm/acct/nite/statefile** and **/var/adm/acct/nite/active** file on the specified node, for the accounting cycle being processed. Correct any errors and rerun the **nrunacct** script on the node.

0020-028 The statefile for node *number* for *date* does not say COMPLETE

Explanation: A **/var/adm/acct/nite/statefile** was found on the specified node for the specified date, however it indicated that the **nrunacct** script had not successfully completed processing.

User Response: Examine the **/var/adm/acct/nite/statefile** and **/var/adm/acct/nite/active** file on the specified node, for the specified date. Correct any errors and rerun the **nrunacct** script on the node.

0020-029 node threshold is set to *number* percent. Terminating processing for this cycle.

Explanation: The percent of nodes for which accounting data was available was less than the active node threshold (as specified by the **spacct_actnode_thresh** attribute of the SDR SP object).

User Response: Review the **/var/adm/cacct/active** file for the day being processed for information on why data was not available from nodes. Correct any problems, or if desired lower the active node threshold.

0020-030 The System Data Repository cannot be accessed.

Explanation: An error was encountered, when attempting to access the System Data Repository.

User Response: Verify that the SDR is accessible and rerun the program.

0020-031 The /var/adm/cacct/fiscal_periods file has invalid entries. Should contain a series of lines consisting of only fiscal period begin dates in the form MMDD.

Explanation: The **/var/adm/cacct/fiscal_periods** file was fout to contain entries that were note of the form, MMDD.

User Response: Verify that all lines in the **/var/adm/cacct/fiscal_periods** file are of the form MMDD, where MMDD is the month and day of the start of a fiscal period.

Chapter 31. 0021 - IBM Virtual Shared Disk Common Messages

0021-001 The initial cache buffer count specified, *init_cache_buffer_count***, is invalid. It must be greater than zero.**

Explanation: The value passed for the initial cache buffer count was unacceptable. The value must be a number greater than zero.

User Response: Correct the value and reenter the command.

0021-002 The maximum cache buffer count (*max_cache_buffer_count***) must be a number greater than or equal to initial cache buffer count (***init_cache_buffer_count***).**

Explanation: The value passed for the maximum cache buffer count was unacceptable. The value must be a number greater than or equal to the initial cache buffer count you specified.

User Response: Correct the value and reenter the command.

0021-003 The VSD request count specified, *vsd_request_count***, must be a number greater than zero.**

Explanation: The value passed for the Virtual Shared Disk request count is unacceptable. The value must be a number greater than zero.

User Response: Correct the value and reenter the command.

0021-004 The read/write request count specified, *rw_request_count***, must be a number greater than zero.**

Explanation: The value passed for the Virtual Shared Disk request count was unacceptable. The value must be a number greater than zero.

User Response: Correct the value and reenter the command.

0021-005 You have specified a local volume group name, *local_group_name***, that is not defined on node** *node_number***.**

Explanation: The name passed for the local volume group is unacceptable. The local volume group must be defined on the node specified.

User Response: Do an **rsh lsvg** to the node and choose a defined volume group name. Reenter the command with this name.

0021-006 *field_name* **too long. Length must be less than or equal to 31 characters.**

Explanation: The name passed is unacceptable. The length of the name must be less than or equal to 31 characters.

User Response: Correct the name's length and reenter the command.

0021-007 There was a non-zero return code from issuing rsh lsvg to node *node_number***.**

Explanation: The routine issued the **lsvg** command to a node via **rsh**, and a non-zero return code was detected.

User Response: Make sure the node is responsive and that you have permissions to **rsh** to the node.

0021-008 Global volume group name *global_group_ name* **is already in use.**

Explanation: The name specified already defines a global volume group in the SDR.

User Response: Use the **vsdelvg** command to delete the entry in the SDR and reenter the **vsdvg** command.

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0021-009 Entry already in the SDR.

Explanation: The information specified for this command is already in the SDR.

User Response: Do action required. You already have this information in the SDR.

0021-010 You have specified a global volume group name, *global_group_name*, that does not exist.

Explanation: The name specified does not have an entry in the SDR.

User Response: Use the **vsdvg** command to add the global volume group name to the SDR.

0021-011 There was a non-zero return code from issuing rsh lslv to node *node_number*.

Explanation: The routine issued the **lslv** command to a node via **rsh** and a non-zero return code was detected.

User Response: Make sure the node is responsive and that you have permissions to **rsh** to the node.

0021-012 You have specified a logical volume name, *logical_volume_name*, that is not defined on the volume group *volume_group_name*.

Explanation: The name passed as the logical volume name is unacceptable. The logical volume name must be defined on the volume group specified.

User Response: Choose a logical volume name that exists on the volume group specified and reenter the command with this name.

0021-013 VSD name *vsd_name* is already in use.

Explanation: The name specified already defines an Virtual Shared Disk in the SDR.

User Response: Use the **undefvsd** command to undefine the Virtual Shared Disk in the SDR and reenter the **defvsd** command.

0021-014 You have specified a VSD name, *vsd_name*, that does not exist.

Explanation: The name specified does not have an entry in the SDR.

User Response: No action required. You do not have a Virtual Shared Disk with this name.

0021-015 The VSD name, *vsd_name*, cannot be the same as the logical volume name.

Explanation: The Virtual Shared Disk and the LV names cannot be the same or the Virtual Shared Disk will overwrite the LV's special device file, rendering the logical volume inaccessible.

User Response: Make up a new name for the Virtual Shared Disk and reissue your command. The suggested naming convention is **vsd**.*logical_volume_name*.

0021-016 No adapter object was found for adapter *adapter_name* on node *node_number*.

Explanation: There is no adapter of that type on that node.

User Response: Verify that the node number and adapter name are correct. If they are valid, an adapter object must be created for them in the adapter class in the SDR.

0021-017 Local volume group name *local_volume_group_name* on node *node_number* already defined in Global volume group *global_volume_group_name*.

Explanation: A *local_volume_group_name* and serving *node_number* can only be associated with one *global_volume_group_name*. You are creating a second association, which will be rejected.

User Response: Decide which *global_volume_group_name* you want the *local_volume_group_name* and serving *node_number* pair to be associated with.

0021-018 Primary server node and secondary server node cannot be the same (*node_number*).

Explanation: If a *global_volume_group_name* has two servers, they must be two different nodes.

User Response: If the *global_volume_group* has only one server, don't specify a secondary server, just leave it off the command line of panel. Otherwise, you mistakenly specified the same node as both primary and secondary server. Correct the value and enter the command again.

0021-019 The maximum buddy buffer size *max_buddy_buffer_size* must be a number greater than or equal to the minimum buddy buffer size *min_buddy_buffer_size*.

Explanation: An unacceptable value was passed for the maximum buddy buffer size. The value must be a number greater than or equal to the minimum buddy buffer size specified.

User Response: Correct the value and enter the command again.

0021-020 The buddy buffer size specified, *VSD_maxIPmsgsz*, is not valid; it must be a number greater than zero.

Explanation: An unacceptable value was passed for the buddy buffer size. The value must be a number greater than zero.

User Response: Correct the value and enter the command again.

0021-021 The buddy buffer size specified, *VSD_maxIPmsgsz*, is not valid; it must be a number that is a power of 2 greater than or equal to 4096.

Explanation: An unacceptable value was passed for the buddy buffer size. The value must be a number that is a power of 2 greater than or equal 4096.

User Response: Correct the value and enter the command again.

0021-022 Logical Volume name *logical_volume_name* in Global Volume Group *global_volume_group_name* is already defined as VSD name *VSD_name*.

Explanation: The Virtual Shared Disk you are trying to create already exists with another name of *VSD_name* A *logical_volume_name* and *global_volume_group_name* can be associated with only one Virtual Shared Disk name. You are creating a second association, which will be rejected.

User Response: Verify that the *logical_volume_name* and the *global_volume_group_name* are correct. If so, you have already defined that pair as a Virtual Shared Disk. Use *VSD_name* for the Virtual Shared Disk, or undefine the old name with the **undefvsd** command. Define the Virtual Shared Disk again with the **defvsd** command to use the new name.

0021-023 VSD *vsd_name* is configured on node *host* and cannot be undefined.

Explanation: A Virtual Shared Disk cannot be undefined if it is configured an any node.

User Response: Bring the Virtual Shared Disk to the defined state by issuing the proper combination of the **suspendvsd**, **stopvsd**, and **ucfgvsd** methods for *vsd_name* on the host. Enter the **undefvsd** command again.

0021-024 Deletion of VSD *vsd_name* from the VSD_TABLE in the SDR failed with a return code of *return_code*. VSD *vsd_name* and minor number *minor_number* are not undefined.

Explanation: The **SDRDeleteObjects** command failed when trying to undefine the Virtual Shared Disk by deleting it from the SDR VSD_Table class. The *minor_number* was not deleted from the SDR VSD_Minor_Number class.

User Response: To fix the problem, check the preceding message from the **SDRDeleteObjects** command. When the SDR is fixed, enter the **undefvsd** command again.

0021-025 Logical volume *lvname* **on volume group** *local_name* **on node** *node* **(***node_number***) is bootable. No secondary server is allowed on volume groups with bootable logical volumes.**

Explanation: If a *global_volume_group_name* has two servers, the volume group must not contain a logical volume of type boot.

User Response: Make sure to specify the correct *volume_group* Remove the bootable logical volume from the volume group, with **chlv -t** bootable <logical volume> name. Do not mix data in a bootable volume, because if a node tried to boot from that logical volume and use the volume group as the root volume group, while the other Virtual Shared Disk serving node was trying to be a server for application data, your request would be rejected.

0021-026 Node *node_number* **cannot be deleted because it is the primary server for global volume group** *global_volume_group_name***.**

Explanation: Node *node_number* is the primary server for global volume group *global_volume_group_name*. Deleting VSD information for the node would make the global volume group inaccessible along with other global volume groups for which this node may be a server.

User Response: Undefine *global_volume_group_name* first if you really want to make *node_number* no longer a VSD node. If you want to change some VSD parameters for *node_number*, you can reissue the **vsdnode** command without first issuing **vsdelnode** for *node_number*.

0021-027 Node *node_number* **cannot be deleted because it is the secondary server for global volume group** *global_volume_group_name***.**

Explanation: Node *node_number* is the secondary server for global volume group *global_volume_group_name*. Deleting VSD information for the node would make the global volume group inaccessible along with other global volume groups for which this node may be a server.

User Response: Undefine *global_volume_group_name* first if you really want to make *node_number* no longer a VSD node. If you want to change some VSD parameters for *node_number*, you can reissue the **vsdnode** command without first issuing **vsdelnode** for *node_number*.

0021-028 You have specified a global volume group name, *global_volume_group_name***, containing a VSD. Use the -f option to force this action.**

Explanation: The global volume group contains VSDs.

User Response: If you want to remove the global volume group and its vsds, issue **vsdelvg** with the **-f** option.

0021-029 Failed to generate vsd minor number *minor_number* **for vsd** *vsd_name***.**

Explanation: defvsd issues **SDRCreateObjects VSD_Minor_Number** to generate a new minor number for a specified vsd. If the return code from the SDR is non-zero, **defvsd** generates this error message.

User Response: If the minor_number is not a valid integer, problem is in **defvsd**epk.. If the minor_number is a valid integer, problem is in the SDR. Issue **vsdatlst** to verify the minor number in defined vsds. You can issue **/usr/lpp/ssp/bin/SDRGetObjects -q VSD_Minor_Number** tp chect the SDR.

0021-030 Bad system class VSD_Minor_Number in SDR.

Explanation: defvsd runs **SDRCreateObjects VSD_Minor_Number** to generate a new minor number for given vsd. If system class VSD_Minor_Number is empty after some vsds were defined, **defvsd** generates an error.

User Response: Check the SDR database by issuing: **/usr/lpp/ssp/bin/SDRGetObjects -q VSD_Minor_Number**.

0021-031 The IP packet size specified, *VSD_maxIPmsgsz*, is not valid. The VSD IP packet size must be between 512 to 63.5K and a multiple of 512.

Explanation: An unacceptable value was passed for the Virtual Shared Disk IP packet size. The value must be a number between 512 and 63.5K.

User Response: Correct the value and enter the command again.

Chapter 32. 0022 - CMI Messages

0022-001 The repository cannot be accessed. Return code was *return code*.

Explanation: The routine could not access the System Data Repository. The routine halts.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0022-002 You have specified an invalid number of arguments.

Explanation: An invalid command format was issued. The routine halts.

User Response: Correct the command and enter it again.

0022-003 You have specified an invalid flag.

Explanation: A flag passed to the routine was invalid.

User Response: Correct the command and enter it again.

0022-004 Issuing the command *command* resulted in a return code of *return code*.

Explanation: The routine passed a command to the System Data Repository which gave a non-zero return code.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0022-005 You have specified an invalid starting frame number.

Explanation: An invalid starting frame number value was passed. The value must be between 1 and 64, inclusive.

User Response: Correct the value and enter the command again.

0022-006 You have specified an invalid value for -r.

Explanation: An invalid value was passed with the **-r** flag.

User Response: Correct the value and enter the command again.

0022-007 You have specified an invalid frame count.

Explanation: An invalid frame count value was passed. The value must be between 1 and 64, inclusive.

User Response: Correct the value and enter the command again.

0022-008 Start frame plus frame count must not exceed sixty-five (65).

Explanation: The specified frame count, when added to the start frame, exceeded 65, which is invalid.

User Response: Correct either the start frame or frame count and enter the command again.

0022-009 You have specified an invalid starting tty port.

Explanation: The value passed for the starting tty port was invalid.

User Response: Correct the value and enter the command again.

0022-010 An interim tty port is invalid.

Explanation: A value calculated for a tty port to be used for a frame in the range of frames specified was invalid. The routine halts.

User Response: Verify the value provided for the starting frame, the frame count, or the starting tty port and enter the command again.

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0022-011 Each option must be of the form attribute=value.

Explanation: A parameter in an invalid format was passed.

User Response: Correct the command and enter it again.

0022-012 Each attribute name may be specified only once.

Explanation: An attribute was specified more than once.

User Response: Correct the command and enter it again.

0022-013 The install image must be a file in /usr/sys/inst.images/ssp.

Explanation: A value for the **install_image** attribute was passed which was not a file in **/usr/sys/inst.images/ssp**.

User Response: Correct the value and enter the command again.

0022-014 You have specified an invalid value for the remove_image attribute.

Explanation: A value other than true or false was passed for the **remove_image** attribute.

User Response: Correct the value and enter the command again.

0022-015 You have specified an invalid value for the ntp_config attribute.

Explanation: A value other than none, consensus, internet, or timemaster was passed for the **ntp_config** attribute.

User Response: Correct the value and enter the command again.

0022-016 You have specified an invalid value for the ntp_server attribute.

Explanation: A value that was not in the format, server[,server]... was passed for the **ntp_server** attribute, or one of the servers could not be resolved by the host command.

User Response: Verify the value provided or your name resolution and enter the command again.

0022-017 You have specified an invalid value for the ntp_version attribute.

Explanation: A value other than 1 or 3 was passed for the **ntp_version** attribute.

User Response: Correct the value and enter the command again.

0022-018 You have specified an invalid value for the amd_config attribute.

Explanation: A value other than true or false was passed for the **amd_config** attribute.

User Response: Correct the value and enter the command again.

0022-019 You have specified an invalid value for the print_config attribute.

Explanation: A value other than false, open, or secure was passed for the **print_config** attribute.

User Response: Correct the value and enter the command again.

0022-020 You have specified an invalid value for the usermgmt_config attribute.

Explanation: A value other than true or false was passed for the **usermgmt_config** attribute.

User Response: Correct the value and enter the command again.

0022-021 The password file must begin with a \"/\".

Explanation: A value that was not a full path was passed for the **passwd_file** attribute.

User Response: Correct the value and enter the command again.

0022-022 You have specified an invalid value for the homedir_server attribute.

Explanation: A value that could not be resolved with the host command was passed for the **homedir_server** attribute.

User Response: Verify the value provided or your name resolution and enter it again. the command.

0022-023 The homedir path must begin with a \"/\".

Explanation: A value that that was not a full path was passed for the **homedir_server** attribute.

User Response: Correct the value and enter the command again.

0022-024 You have specified an invalid value for the filecoll_config attribute.

Explanation: A value other than true or false was passed for the **filecoll_config** attribute.

User Response: Correct the value and enter the command again.

0022-025 You have specified an invalid value for the supman_uid attribute.

Explanation: An invalid uid value was passed for the **supman_uid** attribute.

User Response: Correct the value and enter the command again.

0022-026 The uid specified with the supman_uid attribute must correspond to the uid for the id supman.

Explanation: A value that is in use for some userid other than **supman.** was passed for the **supman_uid** attribute.

User Response: Correct the value and enter the command again.

0022-027 You have specified an invalid value for the supfilesrv_port attribute.

Explanation: An invalid port value was passed for the **supfilesrv_port** attribute.

User Response: Correct the value and enter the command again.

0022-028 The port specified with the supfilesrv_port attribute must correspond to the port used for the id supfilesrv.

Explanation: A value that is in use by an id other than **supfilesrv**. was passed for the **supfilesrv_port** attribute.

User Response: Correct the value and enter the command again.

0022-029 You may not delete this node, which is a /usr server for another node.

Explanation: One of the nodes in the range of nodes to be deleted is a /**usr** server for other nodes, and thus may not be deleted.

User Response: Correct the range of nodes to be deleted and enter the command again or change all of the nodes served by this node to be served by another /**usr** server and then enter the command again.

0022-030 You have specified an invalid attribute name.

Explanation: An attribute was specified which was invalid.

User Response: Correct the value and enter the command again.

0022-031 You may not specify a value of timemaster or internet for the ntp_config attribute if you do not specify a value for ntp_server.

Explanation: An **ntp_config** value of timemaster or internet requires an ntp_server.

User Response: Enter the command again, specifying an ntp_server along with an **ntp_config** value of internet or timemaster.

0022-032 You may not specify a value of secure for the print_config attribute if you do not specify a value for print_id.

Explanation: A print_config value of secure requires a **print_id**.

User Response: Enter the command again, specifying a **print_id** along with a **print_config** value of secure.

0022-033 You may not specify a value of true for the usermgmt_config attribute if you do not specify a value for passwd_file.

Explanation: A **usermgmt_config** value of true requires a **passwd_file** value.

User Response: Enter the command again, specifying a **passwd_file** along with a **usermgmt_config** value of true.

0022-034 You may not specify a value of true for the usermgmt_config attribute if you do not specify a value for homedir_server.

Explanation: A **usermgmt_config** value of true requires a **homedir_server**.

User Response: Enter the command again, specifying a **homedir_server** along with a **usermgmt_config** value of true.

0022-035 You may not specify a value of true for the usermgmt_config attribute if you do not specify a value for homedir_path.

Explanation: A usermgmt_config value of true requires a **homedir_path**.

User Response: Enter the command again, specifying a **homedir_path** along with a **usermgmt_config** value of true.

0022-036 You may not specify a value of true for the filecoll_config attribute if you do not specify a value for supman_uid.

Explanation: A **filecoll_config** value of true requires a **supman_uid**.

User Response: Enter the command again, specifying a **supman_uid** along with a **filecoll_config** value of true.

0022-037 You may not specify a value of true for the filecoll_config attribute if you do not specify a value for supfilesrv_port.

Explanation: A **filecoll_config** value of true requires a **supfilesrv_port**.

User Response: Enter the command again, specifying a **supfilesrv_port** along with a **filecoll_config** value of true.

0022-038 There was a non-zero return code from issuing rsh setup_server to node *number***.**

Explanation: The routine issued the **setup_server** command to a node via **rsh** and a non-zero return code was detected.

0022-039 You have specified an invalid value for -s.

Explanation: An invalid value was passed with the **-s** flag.

User Response: Correct the value and enter the command again.

0022-040 You have specified an invalid starting slot number.

Explanation: An invalid starting slot number value was passed. The value must be between 1 and 16, inclusive.

User Response: Correct the value and enter the command again.

0022-041 You have specified an invalid node count.

Explanation: An invalid node count value was passed. The value must be between 1 and 1024, inclusive.

User Response: Correct the value and enter the command again.

0022-042 Start node plus node count must not exceed 1025.

Explanation: The specified node count, when added to the calculated start node, exceeded 1025, which is invalid.

User Response: Correct either the start frame, start slot, or node count, and enter the command again.

0022-043 Starting IP address could not be resolved.

Explanation: The value passed for the starting IP address could not be resolved using the host command. The routine halts.

User Response: Verify the value provided or your name resolution and enter the command again.

0022-044 You have specified an invalid netmask.

Explanation: The value passed was an invalid netmask.

User Response: Correct the value and enter the command again.

0022-045 Default route could not be resolved.

Explanation: The value passed for the default route was not able to be resolved using the host command. The routine halts.

User Response: Verify the value provided or your name resolution and enter the command again.

0022-046 Node to be changed - *node number* **- could not be found in repository.**

Explanation: The routine encountered a node in the range of nodes specified which could not be found in the repository. The routine halts.

User Response: Make sure that you have specified the node range correctly and that information for the nodes is in the System Data Repository. Correct the node range and enter the command again.

0022-047 *address* **- Interim IP address could not be resolved.**

Explanation: A value calculated for an IP address to be used for a node in the range of nodes specified, could not be resolved using the host command. The routine halts.

User Response: Verify the value provided for the starting IP address, the node range specified, the value for the **-s** flag, or your name resolution. Enter the command again.

0022-048 To enter or change data regarding the en0 adapter, use the spethernt command.

Explanation: The **spadaptrs** command may not be used in connection with the en0 adapter.

User Response: Use the **spethernt** command.

0022-049 You have specified an invalid adapter name.

Explanation: An invalid adapter name value was passed.

User Response: Correct the value and enter the command again.

0022-050 If you specify an adapter name of css0, you must specify -n yes, unless you specify that ARP is to be enabled.

Explanation: When providing information about the css0 adapter, **-n** yes must be specified, unless **-a** (ARP enable) is **yes.**

User Response: Correct the command and enter again.

0022-051 Each flag may be specified only once.

Explanation: A flag was specified more than once.

User Response: Correct the value and enter the command again.

0022-052 The node identifier for the boot_server could not be found in the repository.

Explanation: A value that did not correspond to either a valid SP node or the control workstation was passed with the **-n** flag.

User Response: Correct the value and enter the command again.

0022-053 You have specified an invalid value for -i.

Explanation: An invalid value was passed with the **-i** flag. The value must be a file in the **/usr/sys/inst.images/ssp** directory on the control workstation.

User Response: Correct the value and enter the command again.

0022-054 You may not specify node *number* **as an ntp_server.**

Explanation: A value that corresponds to an SP node was passed for an **ntp_server**.

User Response: Enter the command again, specifying an **ntp_server** which is not an SP node.

0022-055 You must specify at least one flag to indicate a value to be changed.

Explanation: You did not indicate a value to change for the specified node(s).

User Response: Enter the command again, providing a value to change.

0022-056 You have specified am invalid value for -f.

Explanation: A value other than long or short was passed with the **-f** flag.

User Response: Correct this value and enter the command again.

0022-057 No adapter object was found for the adapter specified and node *number***.**

Explanation: An adapter name was passed to be used for each node in the range of nodes specified, but no adapter with that name was found for the indicated node. The routine halts.

User Response: Correct either the adapter name or the range of nodes and enter the command again.

0022-058 Adapter IP address could not be resolved *address***.**

Explanation: A value found in an adapter object could not be resolved using the host command. The routine halts.

User Response: Verify your name resolution and enter the command again or correct the value in the adapter object and then enter the command again.

0022-059 You may not delete this node, which is a boot/install server for another node.

Explanation: One of the nodes in the range of nodes to be deleted is a boot/install server for other nodes, and thus may not be deleted.

User Response: Correct the range of nodes to be deleted and enter the command again or change all of the nodes served by this node to be served by another boot/install server and then enter the command again.

0022-060 Information in the SDR indicates that the node is not up.

Explanation: The SDR indicates that a node is not up, so the **rsh** command to get information from the node is not issued. The routine continues.

User Response: If you wish to get information from the node, you must insure that the node is up and running and enter the command again.

0022-061 There was a non-zero return code from issuing an rsh command to node *number***.**

Explanation: When the command to get information from the node was issued via **rsh**, a non-zero return code was detected. The routine continues.

0022-062 Unable to acquire hardware Ethernet address for node *node***.**

Explanation: The routine could not obtain the hardware Ethernet address for the indicated node. The routine continues.

0022-063 You may not change the boot server for node *number* to be itself.

Explanation: A value that corresponds to a node in the range of nodes for this operation was passed with the **-n** flag.

User Response: Correct either the boot_server value on the **-n** flag or the range of nodes and enter the command again.

0022-064 If you specify an adapter name of css0 and you wish to use switch node numbers, you may only specify a start frame of 1 and a start slot of 1.

Explanation: When providing information about the css0 adapter, the start frame and start slot must both be 1 if **-n** is **yes.**

User Response: Correct the command and enter it again.

0022-065 Last IP address - *address* - not in same subnet as starting IP address.

Explanation: The value calculated for the last IP address for the range of nodes specified is not in the same subnet as the starting IP address. The routine halts.

User Response: Verify the value provided for the starting IP address, the node range specified, or the value for the **-s** flag. Enter the command again.

0022-066 If you specify an adapter name of css0 and you wish to use switch node numbers, you may only specify node count equal to the number of nodes in the repository - *number*

Explanation: When providing information about the css0 adapter, the node count must be equal to the total number of SP nodes in your system if **-n** is **yes.**

User Response: Correct the command and enter it again.

0022-067 You have specified an invalid value for the passwd_file_loc attribute.

Explanation: A value that could not be resolved with the host command. was passed for the **passwd_file_loc** attribute.

User Response: Verify the value provided or your name resolution and enter the command again.

0022-068 You may not specify a value of true for the usermgmt_config attribute if you do not specify a value for passwd_file_loc.

Explanation: A **usermgmt_config** value of true requires a **passwd_file_loc** value.

User Response: Enter the command again, specifying a **passwd_file_loc** along with a **usermgmt_config** value of true.

0022-069 If you specify an adapter name of tr0 or tr1, you must specify the Token Ring data rate with the -r flag.

Explanation: When providing information about the tr0 or tr1 adapters, you must specify the Token Ring data rate.

User Response: Correct the command and enter it again.

0022-070 You have specified an invalid value for -u.

Explanation: The value passed for the **-u** flag could not be resolved using the host command.

User Response: Verify the value provided or your name resolution and enter the command again.

0022-071 You may not change the /usr server for node *number* to be itself.

Explanation: A value that corresponds to a node in the range of nodes for this operation was passed with the **-u** flag.

User Response: Correct either the /**usr** server value on the **-u** flag or the range of nodes and enter the command again.

0022-072 You may not specify node *number* as a /usr server, because it is a /usr client.

Explanation: A value was passed with the **-u** flag which corresponded to a node which was a /**usr** client.

User Response: Correct either the /**usr** server value on the **-u** flag and enter the command again or change the /**usr** client to be a full AIX node and then enter the command again.

0022-074 You may not specify node *number* as a boot server, because it is a /usr client.

Explanation: A value that corresponds to a node that is a /**usr** client was passed with the **-n** flag.

User Response: Correct either the **boot_server** value on the **-n** flag and enter the command again, or change the /**usr** client to be a full AIX node and then enter the command again.

0022-075 You may not specify the -t flag unless you are specifying an adapter name of en1.

Explanation: If you are not providing information about the en1 adapter, you may not specify the **-t** flag.

User Response: Correct the command and enter it again.

0022-076 You may not specify the -r flag unless you are specifying an adapter name of tr0 or tr1.

Explanation: If you are not providing information about the tr0 or tr1 adapters, you may not specify the **-r** flag.

User Response: Correct the command and enter it again.

0022-077 You may not specify the control workstation as an ntp_server.

Explanation: A value that corresponds to the control workstation was passed for an **ntp_server**.

User Response: Enter the command again, specifying an ntp_server which is not the control workstation.

0022-080 There was a non-zero return code from issuing rsh services_config to node *number*.

Explanation: The routine issued the **services_config** command to a node via **rsh**, and a non-zero return code was detected.

0022-081 You have specified an invalid value for the spacct_enable attribute.

Explanation: A value other than true or false was passed for the **spacct_enable** attribute.

User Response: Correct the value and enter the command again.

0022-082 You have specified an invalid value for the spacct_excluse_enable attribute.

Explanation: A value other than true or false was passed for the **spacct_excluse_enable** attribute.

User Response: Correct the value and enter the command again.

0022-083 You have specified an invalid value for the spacct_actnode_thresh attribute.

Explanation: An invalid value was passed for the **spacct_node_thresh** attribute. The value must be between 0 and 100, inclusive.

User Response: Correct the value and enter the command again.

0022-084 You have specified an invalid value for the acct_master attribute.

Explanation: A value that did not specify a valid SP node was passed for the **acct_master** attribute.

User Response: Correct the value and enter the command again.

0022-085 You have specified an invalid value for -e.

Explanation: A value other than true, false, or default was passed for the **-e** flag.

User Response: Correct the value and enter the command again.

0022-086 You have specified an invalid value for -j.

Explanation: An invalid value was passed for the **-j** flag.

User Response: Correct the value and enter the command again.

0022-087 You have specified an invalid value for -x.

Explanation: A value other than true or false was passed for the **-x** flag.

User Response: Correct the value and enter the command again.

0022-088 There was a non-zero return code from issuing dsh services_config to a host or hosts.

Explanation: When the **services_config** command was issued via **dsh**, a non-zero return code was detected. The routine exits.

User Response: None.

0022-089 You have specified an invalid value for -g.

Explanation: The value passed for the **-g** flag was not able to be resolved using the host command.

User Response: Verify the value provided or your name resolution and enter the command again.

0022-090 You have specified an invalid value for -h.

Explanation: A value was passed with the **-h** flag which was invalid. The value must be a list of disks to be used for destination hard disks.

User Response: Correct the value and enter the command again.

0022-091 There was a non-zero return code from issuing rsh /bin/bootlist to node *node***.**

Explanation: The routine issued the **/bin/bootlist** command to a node via **rsh**, and a non-zero return code was detected.

User Response: To network boot the node, issue the following commands on the node:

```
bootlist -m normal ent0 hdisk0
shutdown -Fr
```

or use Node Conditioning.

0022-092 Frame to be deleted *frame* **could not be found in repository.**

Explanation: A frame specified for deletion does not have a Frame object in the SDR.

User Response: Correct the specification of the command and enter it again.

0022-093 You may not delete the frame(s) specified because node *boot server node to be deleted* **is a boot server for node** *node served which is in a frame not to be deleted***.**

Explanation: One of the nodes in a frame in the range of frames to be deleted is a boot server for a node in a frame which is not being deleted. Thus, the frame may not be deleted.

User Response: Correct the range of frames to be deleted and enter the command again or change all of the nodes not to be deleted which are served by this node to be served by another boot server and then enter the command again.

0022-094 You may not delete the frame(s) specified because node */usr server node to be deleted* **is a /usr server for node** *node served which is in a frame not to be deleted***.**

Explanation: One of the nodes in a frame in the range of frames to be deleted is a /**usr** server for a node in a frame which is not being deleted. Thus, the frame may not be deleted.

User Response: Correct the range of frames to be deleted and enter the command again or change all of the nodes not to be deleted which are served by this node to be served by another /**usr** server and then enter the command again.

0022-095 To delete data regarding the en0 adapter, use the spdelnode command.

Explanation: The **spdeladap** command may not be used in connection with the **en0** adapter.

User Response: Use the **spdelnode** command.

0022-096 You may not delete this adapter, which is the /usr client adapter for node *node number***.**

Explanation: A value was passed for the adapter name parameter which corresponded to the adapter used for mounting /**usr** for a node in the node range which is a /**usr** client.

User Response: Correct either the adapter name parameter or the node range and enter the command again or change the /**usr** client adapter for the node indicated in the message and enter the command again.

0022-097 No nodes found in the range specified.

Explanation: Using the start_frame, start_node and node_count specified, no node objects were found in the SDR.

User Response: Correct the command and enter it again.

0022-098 Could not open file specified with -l flag

Explanation: Command processing could not open the file supplied with the **-l** flag

User Response: Check the spelling, path, and permissions of the file and enter the command again.

0022-099 File specified with -l flag must contain one line

Explanation: The file supplied with the **-l** flag contained more than one line of data. The file may contain comment lines (preceded by a "#") or blank lines but only one line of data.

User Response: Correct the contents of the node list file and enter the command again.

0022-100 You have supplied an invalid node list.

Explanation: The node list specified with the **-l** flag on the command line or in a file was invalid. It must be a comma-delimited list of node numbers with no white space and must not end with a comma.

User Response: Correct the node list and enter the command again.

0022-101 You may not specify the -l flag with either the -e or the -f flag.

Explanation: When requesting site environment or frame data, the **-l** flag must not be used.

User Response: Correct the command and enter it again.

0022-102 You must specify a type of data to be displayed.

Explanation: When using the **splstdata** command, you must provide at least one flag to indicate which type of data you wish to be displayed.

User Response: Correct the command and enter it again.

0022-103 You have specified an invalid value for -a.

Explanation: A value other than *yes* or *no* was passed with the **-a** flag.

User Response: Correct the value and enter the command again.

0022-104 You may not specify the -a flag or the -n flag unless you are specifying an adapter name of css0.

Explanation: If you are not providing information about the css0 adapter, you may not specify the **-a** or the **-n** flag.

User Response: Correct the command and enter it again.

0022-105 You have specified an invalid value for -n.

Explanation: A value other than yes or no was passed with the **-a** flag.

User Response: Correct the value and enter the command again.

0022-106 If you specify an adapter name of css0 and you wish to use switch node numbers, you must use Start Frame, Start Slot, and Node Count.

Explanation: If switch node numbers are to be used, the nodes may not be specified with the **-l** command.

User Response: Correct the command and enter it again.

0022-107 If you specify an adapter name of css0 and you wish to use switch node numbers, you must not specify the -s flag.

Explanation: If switch node numbers are to be used, the flag to say whether or not IP addresses are to be skipped may not be used.

User Response: Correct the command and enter it again.

0022-108 You have supplied an invalid node: *node*

Explanation: The indicated node, supplied with a node list, is invalid.

User Response: Correct the node list and enter the command again.

0022-109 If you are using a node list, you must not specify the -s flag.

Explanation: If a node list is to be used, the flag to say whether or not IP addresses are to be skipped may not be used.

User Response: Correct the command and enter it again.

0022-110 You must issue *path*/**kinit and rerun this command.**

Explanation: You do not have a ticket-granting ticket (or it has expired), and this command requires one.

User Response: Issue *path*/kinit and run the command again.

0022-111 Only one flag may be specified for type of data to be displayed.

Explanation: When using the **splstdata** command, you may supply only one flag to indicate which type of data you wish to be displayed.

User Response: Correct the command and enter it again.

0022-112 host_responds is 1 for node *node* **and Node Objects will not be deleted unless host_responds is 0 for all nodes to be deleted.**

Explanation: Before deleting the Node Object for node *node*, its host_responds value must be 0.

User Response: Shut the node down (and all nodes to be deleted) and enter the command again.

0022-113 host_responds is 1 for node *node* **and Frame Objects will not be deleted unless host_responds is 0 for all nodes in all frames to be deleted.**

Explanation: Before deleting the Frame Object for the frame containing node *node*, its host_responds value must be 0.

User Response: Shut the node down (and all nodes on all frames to be deleted) and enter the command again.

0022-114 Switch_partition object does not exist or not found in the SDR.

Explanation: The switch partition class was not properly initialized.

User Response: Check to see that all subsequently run programs ran successfully. Check the SDR_config log **/var/adm/SPlogs/sdr/SDR_config.log** for any errors that may have been reported.

0022-115 Node Objects still being created; try running this operation again in a few minutes.

Explanation: The Node Objects for new nodes have not all been created, and they may be needed for this operation to complete.

User Response: Wait a few minutes until **SDR_config** has completed and run the command again.

0022-116 Partition(s) *new_partition* **not found in layout** *layout*

Explanation: The *new_partition* names listed in the message were not found in the config/layout directory specified on the **verparvsd** command.

User Response: Correct either the *new_partition* names specified on the **verparvsd** command, or specify the proper config/layout directory containing the named *new_partitions.*

0022-117 No system partitions found in layout *layout*

Explanation: No system partitions were found in the config/layout directory specified on the command.

User Response: Specify a valid config/layout directory containing the named new system partitions. See the **spdisplay_config** or **locate_syspar_configs** commands for help in locating a valid directory.

0022-118 Duplicate syspar *syspar* **encountered! Layout** *layout* **rejected.**

Explanation: In processing the specified config/layout directory, two system partitions were found with the same name, which is invalid.

User Response: Change the system partition names in the config/layout directory to make them unique, or perhaps you have specified only a config directory, not the correct config/layout directory. Issue the command again with the correct config/layout directory.

0022-119 Node *node_number* **found in two syspars:** *syspar1* **and** *syspar2***. layout** *layout* **rejected.**

Explanation: In processing the specified config/layout directory, node *node_number* was found in two system partitions (*syspar1* and *syspar2*), which is invalid. A node must be in exactly one system partition.

User Response: Most likely, you have specified only a config directory, not the desired config/layout directory. Issue the command again with the correct config/layout directory. Otherwise, your config/layout directory has become corrupted!

0022-120 FATAL ERROR: write to output_file *output_file* **failed! :***perror_message.*

Explanation: The **verparvsd** command writes commands to the output_file specified (or a default one if none is specified). However, the command got an error on a write request to the file. The *perror_message* provides more details on the write failure.

User Response: Correct the situation indicated by the *perror_message,* or a preceeding error message, and issue **verparvsd** again.

0022-121 **ERROR: Node** *node_number* **in new syspar** *new_syspar* **has a VSD_adapter of** *adapter***. Node** *node_number1* **in the same new syspar has a VSD_adapter of** *adapter1.* **All VSD_adapters for this syspar will be set to en0.**

Explanation: For efficiency and performance, all nodes in a VSD cluster should be directly connected over the same network. For example, the high performance switch is the recommended choice, so all VSD nodes should specify an adapter name of **css0,** on either the **vsdnode** command, or its smit panel, smit fastpath vsdnode_dialog. Nodes numbered *node_number* and *node_number1* in new system partition *new_syspar* have different settings for the VSD_adapter field, *adapter* and *adapter1,* respectively.

User Response: If the **-F** flag is used in **spapply_config,** VSD_adapter will be set to en0 on all VSD nodes in new system partition *new_syspar,* to ensure all VSD nodes will be able to communicate with each other. Use the **vsdnode** command or smit panel to change the VSD_adapter to the desired value.

0022-122 **ERROR: Node** *node_number1* **in new syspar** *new_syspar* **has a VSD_max_buddy_buffer_size of** *max_buddy1***. Node** *node_number* **in the same new syspar has a VSD_max_buddy_buffer_size of** *max_buddy* **with** *old_nbuddies* **VSD_max_buddy_buffers. On node** *node_number***, setting VSD_max_buddy_buffer_size to** *max_buddy1* **and VSD_max_buddy_buffers to** *new_nbuddies***.**

Explanation: In a VSD cluster, it is imperative that the value of VSD_max_buddy_buffer_size be the same on all nodes. Otherwise, a VSD client node could send a message to a VSD server node that the server simply could not process, and the request would fail. The **verparvsd** command is pointing out that this imperative has been violated.

User Response: The **verparvsd** command will fix the situation if **-F** is specified on **spapply_config,** or fail otherwise. The fix is to adjust VSD_max_buddy_buffer_size on node *node_number* up to *max_buddy1*. VSD_max_buddy_buffers on node *node_number* will be adjusted from *old_nbuddies* to *new_nbuddies,* such that the same amount of storage is allocated to the buddy buffer on node *node_number*, under the constraint that there must be an integral number of VSD_max_buddy_buffers.

0022-123 **Attention: from oldsyspar** *oldsyspar* **the primary server node** *node_number* **for global volume group** *gvg* **is not a VSD node!**

Explanation: The primary server node for global volume group *gvg* is defined as node *node_number,* but node *node_number* is not a VSD node, that is, the **vsdnode** command has not been run for node *node_number,* so node *node_number* cannot be a server for any *gvg*.

User Response: Run the **vsdnode** command, or smit vsdnode_dialog fast path, on node *node_number* to make it a VSD node, or change the primary server for global volume group *gvg* to the correct VSD node.

0022-124 **Attention: from oldsyspar** *oldsyspar* **the secondary server node** *node_number* **for global volume group** *gvg* **is not a VSD node**

Explanation: The secondary server node for global volume group *gvg* is defined as node *node_number,* but node *node_number* is not a VSD node, that is, the **vsdnode** command has not been run for node *node_number,* so node *node_number* cannot be server for any *gvg*.

User Response: Run the **vsdnode** command, or smit vsdnode_dialog fast path, on node *node_number* to make it a VSD node, or change the secondary server for global volume group *gvg* to the correct VSD node, or remove the secondary server altogether.

0022-125 ERROR: Global volume group *gvg* **from old syspar** *oldsyspar* **has its primary server node** *primary_node_number* **in syspar** *system_partition***, but its secondary server node** *secondary_node_number* **in syspar** *system_partition***. The secondary server for** *gvg* **will be undefined.**

Explanation: The global volume group *gvg* has two servers, but they are in different new partitions, which is not allowed.

User Response: If **-F** is not specified on **spapply_config,** it fails. Otherwise, the secondary server will be removed, leaving the *gvg* with a single primary server. Do one of the following:

- Choose another layout directory.
- Re-cable your disk drives for the *gvg* and redefine it so that both servers are in the same new partition.
- Copy your data to a new twin tailed volume group that is valid in the new partitioning layout.

0022-126 ERROR: GVG *gvg* **from oldsyspar** *oldsyspar* **already exists in syspar** *syspar* **Renaming it to** *new_gvg_name.*

Explanation: Global volume group names must be unique in a system partition. You can have two global volume groups with the same name if they are in separate system partitions. This error may occur if you try to revise your system partitions such that two global volume groups with the same name wind up in the same system partition. Global volume groups are assigned to the system partition containing their primary server node.

User Response: If **-F** is not specified on **spapply_config,** it fails. Otherwise, the global volume group is renamed to *new_gvg_name.* All VSDs on the global volume group will have their global volume group name changed in their definitions. Do one of the following:

- Accept the new name and specify **-F** on **spapply_config**.
- Change the VSD name to one that will be unique in the new partition.
- Select a new layout.

0022-127 ERROR: VSD *vsdname* **already exists in syspar** *syspar* **Renaming VSD** *vsdname* **from oldsyspar** *oldsyspar* **to** *new_vsdname***.**

Explanation: VSD names must be unique in a system partition. You can have two vsds with the same name if they are in separate system partitions. This error may occur if you try to revise your system partitions such that two vsds with the same name wind up in the same system partition. vsds are assigned to the system partition containing their global volume group.

User Response: If **-F** is not specified on **spapply_config,** it fails. Otherwise, the vsd is renamed to *new_vsdname.* Any HSDs containing this VSD will have automatically inherit this name change in their definitions. Do one of the following:

- Accept the new name and specify -F on spapply_config
- Change the global volume group name to one that will be unique in the new partition

0022-128 ERROR: VSD *vsd1* **of HSD** *hsdname* **is in syspar** *syspar1* **but VSD** *vsd* **of HSD** *hsdname* **is in syspar** *syspar***.**

Explanation: All of the VSDs in an HSD **must** be in the same system partition. HSD *hsdname* violates this rule because VSDs *vsd1* and *vsd* are in partitions *syspar1* and *syspar* respectively. HSD *hsdname* will not be usable in the new partitioning layout!

User Response: If **-F** is not specified on **spapply_config,** it fails. Otherwise, the HSD will be renamed to *hsdname.* .BAD. Either choose another layout directory, or move your data from the VSDs in the wrong system partition to VSDs in the new system partitions, and redefine the HSD to remove the .BAD from the name and pick up any new VSD names.

0022-129 All VSDs in HSD *hsdname* **are now in the same partition. Renaming HSD** *hsdname* **.BAD to** *hsdname***.**

Explanation: An HSD name that ends in .BAD is reserved for use by the VSD partitioning function, **verparvsd. verparvsd** will put .BAD on the end of an hsdname if all of its VSDs are

in the same system partition. Conversely, on re-partitioning, if a .BAD HSD is found to **have** all its VSDs in the same partition, the .BAD is removed from the HSD name, as the HSD is now usable.

User Response: None required. This situation does not cause **verparvsd** or **spapply_config** to fail. You may rename your HSD if you like, but don't put .BAD at the end of the name.

0022-130 ERROR: HSD *hsdname* **already exists in syspar** *syspar***. Renaming HSD** *hsdname* **from oldsyspar** *oldsyspar* **to** *new_hsdname***.**

Explanation: HSD names must be unique in a system partition. You can have more than one HSD with the same name as long as they are in different system partitions. The problem comes if you try to revise your system partitions, such that two HSDs with the same name wind up in the same partition. HSDs are assigned to the partition containing their first VSD.

User Response: If **-F** is not specified on **spapply_config,** it fails. Otherwise, the HSD *hsdname* is renamed to *new_hsdname*. Either just accept the new name and specify **-F** on **spapply_config,** or change the **hsd_name** to one that will be unique in the new system partition.

0022-131 *command* **failed: rc =** *return_code***.**

Explanation: The command *command*, which was issued, failed with return code *return_code*, causing the command you invoked to fail.

User Response: Refer to error messages from *command*. Fix the problems that caused *command* to fail, and issue your original command again.

0022-132 Cannot open output_file *output_file* **for output. :** *perror_message***.**

Explanation: The command writes commands to the output_file specified. However, it failed trying to open *output_file*. The *perror_message* provides more details on the open failure.

User Response: Correct the situation indicated by the *perror_message*, or a preceeding error message, and issue your original command again.

0022-133 *command* **failed: errno =** *return_code perror_message*

Explanation: The command *command*, which was issued, failed with return code *return_code*, and perror message *perror_message*. causing the command you invoked to fail.

User Response: Refer to *perror_message* and error messages from *command*. Fix the problems that caused *command* to fail, and issue your original command again.

0022-134 The -u option is valid only in a system partition running at the PSSP-1.2 code level.

Explanation: The **-u** flag was specified in a system partition running at a code level other than PSSP-1.2 .

User Response: Reissue the command with an acceptable flag or change to a system partition running at code level PSSP-1.2 to use this flag.

0022-135 The -g option is valid only in a system partition running at the PSSP-1.2 code level.

Explanation: The **-g** flag was specified in a system partition running at a code level other than PSSP-1.2 .

User Response: Reissue the command with an acceptable flag or change to a system partition running at code level PSSP-1.2 to use this flag.

0022-136 The -a option is valid only in a system partition running at the PSSP-1.2 code level.

Explanation: The **-a** flag was specified in a system partition running at a code level other than PSSP-1.2 .

User Response: Reissue the command with an acceptable flag or change to a system partition running at code level PSSP-1.2 to use this flag.

0022-137 Could not open code level file *code_levels_file***.**

Explanation: The code levels file **/usr/lpp/ssp/bin/spcodelevels** could not be opened.

User Response: Determine why the file could not be opened, correct and issue the command again.

0022-138 Layout description file not found - incorrect pathname specified.

Explanation: The supplied layout pathname did not contain a layout description file.

User Response: If a pathname that was not valid was specified, issue the command again with a valid layout pathname.

0022-139 No syspar directory found in specified path.

Explanation: The supplied layout pathname did not contain any system partition directories.

User Response: If an invalid pathname was specified then reissue the command with a valid layout pathname.

0022-140 Nodelist file for partition *system_partition_name* **not found.**

Explanation: The nodelist file is missing for the specified system partition directory.

User Response: If a pathname that was not valid was specified, issue the command again with a valid layout pathname.

0022-141 Topology file for partition *system_partition_name* **not found.**

Explanation: The topology file is missing for the specified system partition directory.

User Response: If a pathname that was not valid was specified, issue the command again with a valid layout pathname.

0022-142 Customization file for partition *system_partition* **not found.**

Explanation: The customization file was not found.

User Response: Use the **spcustomize_syspar** command to customize this system partition or select another system partition configuration layout to apply.

0022-143 Could not open *system_partition_directory* / *customization_file***.**

Explanation: The customization file for the specified system partition directory could not be opened.

User Response: If the file does not exist then use **spcustomize_syspar** or the SMIT interface to customize it again.

0022-144 Customization file contains bad stanza: File: *system_partition_directory* / *customization_file* **Stanza:** *stanza***.**

Explanation: The customization file in the specified system partition directory contains a stanza value that was not valid.

User Response: Customize the system partition again and correct the stanza that was not valid.

0022-145 Customization file missing *stanza_type* **stanza.**

Explanation: A customization file in the supplied layout directory is missing the specified stanza.

User Response: Customize the system partition again and supply the missing information.

0022-146 Non-unique system partition name specified for *system_partition_directory*

Explanation: The supplied layout directory contains two system partitions with the same name (the name of the second system partition directory is specified in the message).

User Response: Customize the system partition to give it a unique name.

0022-147 System Data Repository cannot be reached; rc= *return_code***.**

Explanation: The attempt to reach the SDR failed.

User Response: Determine why the SDR subsystem is not running and start it again.

0022-148 Default system partition *system_partition* **not defined in specified layout.**

Explanation: The specified layout does not contain a system partition with a name of the default system partition. Exactly one system parititon must have the name of the default system partition (the hostname of the control workstation)

User Response: Customize one of the system partitions in the layout again to ensure it has the name of the default system partition as its name. Alternatively, you may select a different layout with a system partition that has been customized with the name of the default system partition.

0022-149 Attention: node: *node* **in system partition** *system_partition* **has host_responds value of:** *host_responds***.**

Explanation: The specified node in the specified changed system partition is not reported to be shutdown. Nodes in changed system partitions should be shutdown while performing system partitioning.

User Response: None.

0022-150 Command verparvsd returned error; rc= *return_code***.**

Explanation: The **verparvsd** command returned a non-zero error code.

User Response: Determine if the inconsistencies detected by **verparvsd** can be corrected by using the **-F** flag. If appropriate, issue the **spapply_config** command again with the **-F** flag.

0022-151 Command SDRArchive returned error; rc= *return_code***.**

Explanation: The attempt to create an archive copy of the SDR failed.

User Response: Determine the reason from the error code, correct the problem and try the operation again.

0022-152 Attention problem stopping or deleting partition sensitive subsystems using syspar_ctrl for syspa.

Explanation: The attempt to stop or remove one or more of the partition sensitive subsystems controlled by the Syspar Controller (**syspar_ctrl**) in the specified system partition returned a non-zero return code.

User Response: If necessary, correct the error and run **syspar_ctrl -D** again for the specified syspar.

0022-153 Error removing hb daemon for syspar *system_partition_name* **rc=** *return_code***.**

Explanation: The attempt to remove the **heartbeat** daemon for the specified system partition returned a non-zero return code.

User Response: If necessary, correct the error and try the operation again.

0022-154 Error stopping hr daemon for syspar *system_partition_name***; rc=** *return_code***.**

Explanation: The **hr** daemon for the specified system partition returned a non-zero return code.

User Response: If necessary, correct the error and try the operation again.

0022-155 Error removing hr daemon for syspar *system_partition_name* **rc=** *return_code***.**

Explanation: The attempt to remove the **host_responds** daemon for the specified system partition returned a non-zero return code.

User Response: If necessary, correct the error and try the operation again.

0022-156 Error updating Syspar object in SDR; rc= *return_code***.**

Explanation: The attempt to update a Syspar object failed.

User Response: Follow your local procedures for gathering information and reporting problems.

0022-157 Error adding syspar: *system_partition_name* **rc=** *return_code***.**

Explanation: The attempt to add a system partition failed.

User Response: Follow your local procedures for gathering information and reporting problems.

0022-158 Error creating syspar objects: *system_partition_name* **rc=** *return_code***.**

Explanation: The attempt to create a Syspar object failed.

User Response: Follow your local procedures for gathering information and reporting problems.

0022-159 Could not open nodelist file: *system_partition_directory*/*nodelist_file***.**

Explanation: The attempt to open the **nodelist** file for the specified system partition failed.

User Response: The **nodelist** file is installed with the **ssp.top** package. Ensure that this package has been installed and try the operation again.

0022-160 Error updating Syspar_map for syspar: *system_partition_name***, switch-node-number:** *switch_node_number***; rc=** *return_code***.**

Explanation: The attempt to update the Syspar_map object in the SDR returned a non-zero return code.

User Response: Follow your local procedures for gathering information and reporting problems.

0022-161 Error updating Syspar object in SDR; rc= *return_code***.**

Explanation: The attempt to update a Syspar object in the SDR returned a non-zero return code.

User Response: Follow your local procedures for gathering information and reporting problems.

0022-162 Attention problem adding of starting partition sensitive subsystems using syspar_ctrl for syspar.

Explanation: The attempt to add or start one or more of the partition sensitive subsystems controlled by the Syspar Controller (**syspar_ctrl**) in the specified system partition returned a non-zero return code.

User Response: If necessary, correct the error and run **syspar_ctrl -A** again for the specified syspar.

0022-163 Error starting hb daemon for *system_partition***; rc=** *return_code***.**

Explanation: The attempt to start the **heartbeat** daemon for the specified system partition returned a non-zero return code.

User Response: Restore the SDR using **sprestore_config**; correct the **heartbeat** problem (see the supplied return code), and apply the system partition configuration layout again.

0022-164 Error creating hr daemon for *system_partition***; rc=** *return_code***.**

Explanation: The attempt to create the **host_responds** daemon for the specified system partition returned a non-zero return code.

User Response: Restore the SDR using **sprestore_config**; correct the **host_responds** problem (see the supplied return code), and apply the system partition configuration layout again.

0022-165 Error starting hr daemon for *system_partition***; rc=** *return_code***.**

Explanation: The attempt to start the **host_responds** daemon for the specified system partition returned a non-zero return code.

User Response: Restore the SDR using **sprestore_config**; correct the **host_responds** problem (see the supplied return code), and apply the system partition configuration layout again.

0022-166 Error updating SP object in SDR; rc= *return_code***.**

Explanation: The attempt to update the SP object in the SDR returned a non-zero return code.

User Response: Use **sprestore_config** to restore the system from a valid archive and try the operation again.

0022-167 Error running partitionVSDdata; rc= *return_code***.**

Explanation: The command **partitionVSDdata** returned a non-zero return code.

User Response: Refer to VSD documentation in *IBM Parallel System Support Programs for AIX: Administration Guide* to determine corrective action.

0022-168 Error removing syspar: *system_partition***; rc=** *return_code***.**

Explanation: The attempt to remove an existing system partition from the SDR failed.

User Response: Gather information about the error and follow local problem solving procedures.

0022-169 Error retrieving Switch class from SDR; rc= *return_code***.**

Explanation: The return code from **SDRGetObjects -G -x Switch** was non-zero.

User Response: Gather information about the error and follow local problem solving procedures.

0022-170 Error in Eprimary for system partition: *system_partition***; rc=** *return_code***.**

Explanation: The **Eprimary** command returned a non-zero return code.

User Response: Correct the problem and issue the **Eprimary** command again in the stated system partition.

0022-171 Error in Eannotator for system partition: *system_partition***; rc=** *return_code***.**

Explanation: The **Eannotator** command returned a non-zero return code.

User Response: Correct the problem and issue the **Eannotator** command again in the stated system partition.

0022-172 Error in Etopology for system partition: *system_partition***; rc=** *return_code***.**

Explanation: The **Etopology** command returned a non-zero return code.

User Response: Correct the problem and issue the **Etopology** command again in the stated system partition.

0022-173 Error from spverify_config; rc= *return_code***.**

Explanation: A mismatch between the system partition configuration data and the SDR data has been detected.

User Response: Use **sprestore_config** to restore the system from a valid archive and try the operation again.

0022-174 Missing, incorrect, out of order, or wrong number of arguments.

Explanation: The command syntax has not been followed.

User Response: Enter the command again with the correct syntax.

0022-175 Internal SDR error detected (spchk_syspars); rc= *return_code***.**

Explanation: An internal consistency error in the system partitioning data has been detected.

User Response: Use **sprestore_config** to restore the system from a valid archive and try the operation again.

0022-176 Mismatch in PSSP level between boot/install server and client node *node_number***.**

Explanation: The boot server at PSSP-1.2 code level can only serve nodes at the PSSP-1.2 code level. The boot server at PSSP-2.1 code level can only serve nodes at the PSSP-2.1 code level. Boot servers at PSSP-2.2 code level can only serve nodes at PSSP-2.1 or later code level. Also, the boot server for a node at the PSSP-1.2 code level cannot be the control workstation.

User Response: Assign the node to the appropriate boot server, and run **spbootins** again.

0022-180 Could not open *system_partition/directory* / *customization_file***.**

Explanation: The customization file for the specified system partition directory could not be opened.

User Response: This file must have existed in order to apply the current system partition configuration. Discover what happened to the file since then. The destruction of this file would not affect the function of the current system partition configuration.

0022-181 Customization file contains bad stanza: File: *syspar_directory***,** *custom_file* **Stanza:** *stanza***.**

Explanation: The customization file in the specified system partition directory contains an invalid stanza value.

User Response: This file must have been valid in order to apply the current system partition Configuration. The file must have been modified since then. Do not edit this file directly, use the **spcustomize_syspar** command.

0022-182 Could not open nodelist file *system_partition_directory***,** *nodelist file***.**

Explanation: The attempt to open the nodelist file for the specified system partition failed.

User Response: This file must have existed in order to apply the current System Partition Configuration. Discover what happened to the file since then.

0022-183 SDR Syspar, Customization file mismatch.

Explanation: The customization file in the specified system partition directory disagrees with the information in the SDR.

User Response: Has this System Partition been customized since the System Partition Configuration was last applied? That would cause this error. Use **spapply_config** to apply these latest changes or run **sprestore_config** to restore a previous configuration.

0022-184 SDR Syspar_map, Nodelist file mismatch.

Explanation: The SDR Syspar_map does not agree with the Nodelist information in the current system partition configuration layout.

User Response: Either customize and apply a new system partition configuration or use **sprestore_config** to restore the system from a valid archive.

0022-185 Internal SDR error detected (spchk_syspars); rc= *return_code***.**

Explanation: An internal consistency error in the system partitioning data has been detected.

User Response: Use **sprestore_config** to restore the sytem from a valid archive.

0022-186 A frame to be deleted contains a node outside of the current system partition. You may delete this frame only by using the -G option.

Explanation: To delete a frame that contains a node outside of the current system partition, use the **-G** option.

User Response: None.

0022-187 Missing, incorrect, out of order, or wrong number of arguments.

Explanation: The command syntax has not been followed.

User Response: Enter the command again with the correct syntax.

0022-188 Attention problem cleaning up after old partition sensitive subsystems using syspar_ctrl; rc=*return_code***.**

Explanation: The attempt to stop or remove one or more of the partition sensitive subsystems controlled by the Syspar Controller (**syspar_ctrl**) returned a non-zero return code.

User Response: If necessary, correct the error and run **syspar_ctrl -c**, then **syspar_ctrl -A -G**.

0022-189 Attention problem adding or starting partition sensitive subsystems using syspar_ctrl; rc=*return_code***.**

Explanation: The attempt to add or start one or more of the partition sensitive subsystems controlled by the Syspar Controller (**syspar_ctrl**) returned a non-zero return code.

User Response: If necessary, correct the error and run **syspar_ctrl -A -G**.

0022-190 Missing, incorrect, out of order, or wrong number of arguments.

Explanation: The command syntax has not been followed.

User Response: Enter the command again with the correct syntax.

0022-191 Options must precede the path operand.

Explanation: A path operand has been specified prior to one or more optional parameters.

User Response: Path operand must be specified as the last parameter, following all the optional parameters. Enter the command again with the correct syntax.

0022-192 Duplicate *options* options are entered.

Explanation: The same optional parameter has been entered more than once in the command.

User Response: Enter the command again with the correct syntax.

0022-193 Data value is missing for the option *data_option*.

Explanation: A data value is not provided for a specified optional parameter.

User Response: Enter the command again with the correct syntax.

0022-194 Invalid data value for the option *data_option*.

Explanation: A data value that is not valid has been provided for a specified optional parameter.

User Response: Enter the command again with valid data values.

0022-195 The path operand is not provided or the data value for an optional parameter is missing.

Explanation: Either the path operand is not provided as required or an optional parmaeter is entered with no value specified.

User Response: Enter the command again with the required path operand and the data values for all the optional parameters specified.

0022-196 Custom file does not exist.

Explanation: To create a custome file issue the command with -n and -l options. was requested for display or modification, but does not exist. The custom file must be created before it can be displayed or modified.

User Response: To create a custom file, issue the command again specifying **-n** and **-l** with appropriate data values. Other optional parameters may be provided at the same time.

0022-197 The primary_node provided is not in the system partition specified.

Explanation: The primary node provided is not in the nodelist of the system partition directory specified.

User Response: Issue the command with a valid node number in the system partition.

0022-198 Cannot locate system partition information directory.

Explanation: System partition information directory cannot be successfully located due to the failure of an internal call to **locate_syspar_configs** command.

User Response: Follow your local procedures for problem resolution.

0022-199 Invalid LC8 switch hardware configuration.

Explanation: The system partition configuration directory cannot be located for this machine type (LC8). System partitioning is not supported for this machine type.

User Response: None. You cannot system partition this machine type.

0022-200 Cannot locate system partition information directory - return code = *return_code***.**

Explanation: The system partition information directory cannot be successfully located due to the failure of an internal call to the **locate_syspar_configs** command.

User Response: Follow your local procedures for problem resolution.

0022-201 The system partition directory *system_partition_directory* **does not exist or cannot be opened.**

Explanation: The command failed to open the system partition directory.

User Response: Verify the existence of the directory and its access authority.

0022-202 The directory specified is not a system partition directory.

Explanation: The directory specified on the input is not a system partition directory.

User Response: Enter the command again with a system partition directory name.

0022-203 Attention: The nodelist file or the topology file is not found on the directory specified.

Explanation: This check is to warn users who may supply a legal system partition directory name which may not be an actual system partition directory. In a system partition directory there should always exist a nodelist file and a topology file for the system partition.

User Response: Double check the input directory name. Is it actually a system partition directory name?

0022-204 The directory *directory* **does not exist or cannot be opened.**

Explanation: The command failed to open the directory.

User Response: Verify the existence of the directory and its access authority.

0022-205 Attention: The default_install_image specified is not found at the directory *install_image_directory***.**

Explanation: The default install image specified could not be found in the directory **/spdata/sys1/install/images.** For PSSP-1.2 system partitions this is merely a warning.

User Response: Ensure that the default install image specified is available on the bootserver.

0022-206 The default_install_image specified is not found at the directory *install_image_directory***.**

Explanation: The default install image specified could not be found in the directory **/spdata/sys1/install/images.** For PSSP-2.1 system partitions the install image must be in the directory.

User Response: Ensure that the install image is in the directory or select an image which is in the directory.

0022-207 Cannot open *file name* **for reading.**

Explanation: The file cannot be opened for reading.

User Response: Determine why the file cannot be opened. Does the file exist with appropriate access authority? Issue the command again after the problem is solved.

0022-208 Cannot execute host command on *host***.**

Explanation: An internal call to the host command failed.

User Response: Determine why the host command is not working and try the command again.

0022-209 The syspar_name or IP_address specified by the -n option is invalid or cannot be resolved.

Explanation: The *syspar_name* or *IP_address* specified with **-n** option cannot be identified on the system due to invalid input or difficulty in name resolution.

User Response: Check whether the input is a valid syspar_name or IP_address. If valid and a nameserver is not used, add the system partition name and its IP address to **/etc/hosts** for name resolution.

0022-210 Cannot identify the interface for the host *host_address***.**

Explanation: Cannot identify an interface for the host on which the command is executed.

User Response: Run the command **netstat -rn** to verify if an interface is identified for the host.

0022-211 The syspar-name/IP-address specified is not configured to the same adapter as the default partition interface.

Explanation: The default system partition interface and the system partition name and IP address must match.

User Response: Fix the mismatch.

0022-212 Cannot open *custom_file_name* **for writing.**

Explanation: The custom file cannot be opened for writing.

User Response: Determine why the file cannot be opened. Does the file exist with appropriate access authority? Issue the command again after the problem is solved.

0022-213 Cannot open *PSSP_level_code_file_name* **for reading.**

Explanation: The file containing valid PSSP level codes cannot be opened for reading.

User Response: Verify if the file exists with appropriate access authority. Contract system administrator if it does not. The file must exist on the system.

0022-214 Invalid level code is provided. Valid level codes are:

Explanation: The PSSP level code specified is not a valid level code.

User Response: Enter the command again with a valid PSSP level code.

0022-215 Cannot access Syspar_map for node numbers.

Explanation: No node map has been generated from an internal SDR call, **SDRGetObjects Syspar_map**.

User Response: Determine the problem with the SDR call, correct it, and issue the command again.

0022-216 Attention: The install_image_name specified is not found at the directory *image_directory***.**

Explanation: The installation image could not be found in the directory **/spdata/sys1/install/images.** For PSSP-1.2 system partition this is merely a warning.

User Response: Ensure that the install image is available on the bootserver.

0022-217 The install_image_name specified is not found at the directory *image_directory***.**

Explanation: The installation image could not be found in the directory **/spdata/sys1/install/images**. For PSSP-2.1 or later system partition, the install image must be in the directory.

User Response: Ensure that the install image is in the directory, or select an image which is in the directory.

0022-218 Requested files do not exist on the system directory.

Explanation: The contents of **custom, nodelist,** or **layout.desc** files have been requested to be displayed. Because the command was issued without a directory name, the system directory is used as default. However, the system directory does not have any of the requested files.

User Response: Issue the command again either with a directory name or **-R** option, or both.

0022-219 Requested file(s) does not exist on the directory specified.

Explanation: For the directory specified (or all the levels below if **-R** is specified), none of the requested files can be found. For example, a **-d** option issued for a non-layout directory; a **-n** or **-c** option issued for a non-partition directory.

User Response: Issue the command again with matching option and directory. For example, **-d** for a layout directory, **-n** or **-c** for a system partition directory.

0022-220 The syspar-name/IP-address specified in *syspar/custom-file* **is not configured to the same adapter as the default partition interface.**

Explanation: Each system partition must be customized with the hostname (or hostname alias) and IP-address (or alias) of the control workstation. The indicated system partition does not meet this requirement.

User Response: Customize the system partition again with a correct value for the system partition name or IP-address, and apply the system partition configuration layout again.

0022-221 The syspar-name or IP-address in the custom file *custom_file_name* **is invalid or cannot be resolved.**

Explanation: The syspar-name or IP-address specified in the custom file cannot be identified on the system either because the value is invalid or the name cannot be resolved.

User Response: Customize the system partition again with a valid system partition name or IP-address, and apply the system partition configuration layout again.

0022-222 The file *file name* **is missing.**

Explanation: A file expected in the directory is missing.

User Response: Determine why the file is missing, restore the file on the directory and issue the command again.

0022-223 The backup_primary_node provided is not in the system partition specified.

Explanation: The backup primary node provided is not in the nodelist of the system partition directory specified.

User Response: Issue the command with a valid node number in the system partition.

0022-224 A backup_primary_node is not supported on a switchless system or on the HiPS or HiPS-8 switches.

Explanation: HiPS and HiPS-8 switches cannot have backup primary nodes. Switchless systems cannot have backup primary nodes.

User Response: Issue the command without the **-b** flag.

0022-228 Improper Usage, you must specify an option or a valid combination of options.

Explanation: The option or combination of options passed to **syspar_ctrl** was either an unsupported option or a combination of options that were not valid.

User Response: Refer to the Usage statement which lists the valid options.

0022-230 Error could not open syspar - controller subsystem file: *file_name***.**

Explanation: You must have the necessary file permissions to read the specified file if you use the **syspar_ctrl** command.

User Response: Check the file permissions. Verify you are using a userid with the necessary file permissions.

0022-232 Error file *file_name* **contains duplicate subsystem name** *subsystem_name***.**

Explanation: The syspar controller subsystems file is required to contain a unique subsystem name - control script pairs. This file may have been inappropriately edited.

User Response: Restore the proper file.

0022-233 SP_NAME= *system_partition_name subsystem_ctrl_script_name subsystem_ctrl_script_options* **returned with a bad return code, rc =** *return_code***.**

Explanation: The call to the specified subsystem's control script for the specified system partition returned with a bad return code.

User Response: Fix the problem and run the failing subsystem command.

0022-234 *macro_command_name_and_option* **failed, calls to underlying control scripts returned with bad return codes.**

Explanation: The specified entry in the syspar controller subsystems file is not valid. It may have been inappropriately edited.

User Response: Restore the proper file.

0022-235 Subsystem *subsystem_name* **not valid run: syspar_ctrl -E for a list of valid subsystem names.**

Explanation: The specified subsystem name is not valid and is not the name of a subsystem supported throught the syspar controller.

User Response: To get a list of the subsystem names supported through the syspar controller, run the **syspar_ctrl** command with the **-E** option. Then run the **syspar_ctrl** command specifying one of these valid subsystem names.

0022-236 Attention, The Syspar Controller subsystems file contains the following bad entry:

Explanation: The Syspar Controller subsystems file is read to determine what subsystems and control scripts the Syspar Controller will be controlling. If a bad entry is found in this file it will be skipped, but a message will be printed.

User Response: The Syspar Controller subsystems file should only contain valid entries at the time it was shipped. Run **syspar_ctrl -E** to verify that the Syspar Controller is controlling the correct partition sensitive subsystems. If

not, report this problem to the IBM Support Center.

0022-242 Error retrieving Switch class from SDR; rc= *return_code_from_SDRGetObjects***.**

Explanation: The **SDRGetObjects -G Switch switch_number==1 switch_name** command returned a non-zero return code.

User Response: Follow standard problem resolution procedures.

0022-246 Missing one or more Flags

Explanation: When issuing this command, one or more flags are required. If you are defining a new object, then the flags which are required will be listed. If you are changing an existing object, then you must specify at least one flag.

User Response: Refer to the error messages that follow or the usage message to determine which flags are missing.

0022-247 Missing Flag, the <*flag*> **flag is missing.**

Explanation: The flag specified is a required flag for this command.

User Response: Reissue the command including the required flag.

0022-248 Invalid <*hostname or address*>**, the** <*flag*> **flag specified the** <*hostname or address*> <*value*> **which could not be resolved.**

Explanation: The flag specified contained a value which failed name resolution. This flag requires a parameter which can be resolved using the name service which is configured.

User Response: Reissue the command and specify a parameter for this flag that the domain name service can resolve.

0022-249 Invalid node number, the node number <*node_number*> **specified is not a valid node number for the system partition** <**system partition**>**.**

Explanation: The node number was not found in the system partition.

User Response: Set the SP_NAME environment variable to the system partition containing the node number and reissue the command.

0022-250 Invalid node number, a standard node already exists for node number <*node_number*>**.**

Explanation: There is already a standard node with the node number specified. The node number specified must be an unused node number.

User Response: Reissue the command and specify a valid node number.

0022-251 SDR update failed to update the SDR for <*SDR class*> **object** <*node_number*> **with attributes** <*attributes*>**, the return code was** <*rc*>**.**

Explanation: A request to update the SDR failed. The SDRChangeAttrValues command for the specified SDR object failed.

User Response: Use the splst_nodes command to verify that the SDR contains the specified object. Check to make sure that the SDR is available and then reissue the command.

0022-252 SDR query failed for the frame number <*frame_number*> **failed with a return code of** <*rc*>**.**

Explanation: The SDRGetObjects command for the specified frame number failed. This query is being made to check that the frame where this extension node definition would reside, exists.

User Response: Reissue the command and specify an unused node in the existing system.

0022-253 SDR_config failed while attempting to configure the dependent node for frame number <*frame_number*> **and slot number** <*slot_number*> **with a return code of** <*rc*>**.**

Explanation: The SDR_config command failed. This command is issued internally to define the SDR dependent node object and update the switch attributes.

User Response: The SDR_config command should not normally be issued manually. You may issue the "/usr/lpp/ssp/install/bin/SDR_config -v -d -c <frame number> <slot number> <unused> 99" command to see how the command performs. The -d parameter is for debugging purposes. The -v command is for verbose mode; to receive more information.

0022-254 Improper Usage, you must specify an option or a valid combination of options.

Explanation: The option or combination of options passed to the command was either an unsupported option or an invalid combination of options.

User Response: Refer to the Usage statement which lists the valid options.

0022-256 Invalid Format, the <*flag*> **flag contains** <*value*> **which is an invalid format for an IP** <*address or netmask*>

Explanation: The flag specifies an IP address or netmask and the argument passed is not of the format #.#.#.3., where # is one of three digits.

User Response: Reissue the command using the proper format.

0022-257 SDRCreateObjects failed to create the SDR dependent adapter for node number <*node_number*> **with attributes** <*attribute*>**, the return code was** <*rc*>**.**

Explanation: The SDRCreateObjects command for the specified node number failed.

User Response: Check to make sure that the SDR is available and then reissue the command.

0022-258 Extension node number <*node_number*> **not found.**

Explanation: The node number specified did not represent a valid extension node.

User Response: Reissue the command specifying the node number of the extension node to be removed.

0022-259 SDRDeleteObjects failed to delete the SDR *SDR Class* **for node number** <*node_number*>**, the return code was** *rc***.**

Explanation: The SDRDeleteObjects command for the specified node number failed.

User Response: Check to make sure that the SDR is available and then reissue the command.

0022-260 Extension adapter number <*node_number*> **not found.**

Explanation: The node number specified did not represent a valid Extension adapter.

User Response: Reissue the command specifying the node number of the extension adapter to be removed.

0022-261 SDRDeleteObjects failed to delete the SDR DependentAdapter for node number *node number***, the return code was** *return code***.**

Explanation: The SDRDeleteObjects commands for the specified node number failed.

User Response: Check to make sure that the SDR is available and then reissue the command.

0022-262 The command was not run on the active control workstation.

Explanation: The command was not run on the active control workstation. It may not be run on a node or an inactive control workstation.

User Response: Rerun the command on the active control workstation.

0022-263 The command *command name* failed with return code: *return code*.

Explanation: The specified command failed with the specified return code.

User Response: Determine the reason for the failure, resolve the problem, and reissue the original command.

0022-264 Unable to determine the system partition.

Explanation: The routine was not able to determine the system partition.

User Response: Refer to the previous error message to determine the failure and the appropriate action.

0022-265 This command may only be issued on the control workstation.

Explanation: The command issued may only be run on the control workstation.

User Response: Login to the control workstation and reissue the command.

0022-266 The extension node identifier, *extension node identifier*, already exists for the extension node *node number*.

Explanation: The extension node identifier must be unique for the SNMP Agent which is associated with this extension node.

User Response: Review the extension node identifier information for the two extension nodes involved. Once you have determined which extension node definition is in error, reissue the endefnode command and specify the appropriate extension node identifier. It is also possible that you have specified the wrong SNMP Agent.

Chapter 33. 0023 - Resource Manager Messages

0023-001 memory allocation failed.

Explanation: Not enough memory for malloc.

User Response: Check memory usage, free up memory and retry.

0023-002 gethostbyname(*hostname*) failed, h_errno = *error number*.

Explanation: See reference information for gethostbyname().

User Response: Follow the reference page.

0023-003 getservbyname() failed.

Explanation: See reference information for getservbyname().

User Response: Check **/etc/services** entry for ijmd and jmd.

0023-004 Socket() failed, errno = *errno*.

Explanation: See reference information for socket().

User Response: Follow the reference page.

0023-005 Failed to connect() *hostname*. errno = *errno*.

Explanation: See reference information for connect().

User Response: Ping hostname and check **/etc/inetd.conf** for the **inetd** or **jmd** daemons.

0023-006 Failed to open *file name*.

Explanation: Cannot open file.

User Response: Check path and permission of file.

0023-007 Error reading file *file name*.

Explanation: Cannot read file.

User Response: Check permission of file.

0023-008 Socket write failed.

Explanation: Failed in writing to socket.

User Response: Check connection.

0023-009 Select() failed, errno = *errno*.

Explanation: See reference information for select().

User Response: Follow reference information.

0023-010 getpeername() failed, errno = *errno*.

Explanation: See reference information for getpeername().

User Response: Follow reference information.

0023-011 Incorrect client socket address family.

Explanation: The peer is not using **AF_INET** address family.

User Response: Verify and fix

0023-012 setsockopt() failed, errno = *errno*.

Explanation: See reference information for setsockopt().

User Response: Follow reference information.

0023-013 Socket linger time out.

Explanation: Not enough time to write buffered data to socket before closing it.

User Response: Retry, if persists, report.

0023-014 Socket read failed.

Explanation: Failed in reading from socket.

User Response: Check connection, status of sending process, report.

0023-015 mktemp *file name* failed.

Explanation: Failed to get a tmp file name.

User Response: Refer to reference information for mktemp().

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0023-016 Failed to open *file name*, errno *errno*.

Explanation: Cannot open file.

User Response: Look up error number.

0023-017 unlink *file name* failed.

Explanation: Failed to get unlink file.

User Response: Refer to reference information for unlink().

0023-018 mmap() failed.

Explanation: mmap() call failed.

User Response: Refer to reference information for mmap().

0023-019 munmap() failed.

Explanation: munmap() call failed.

User Response: Refer to reference information for munmap().

0023-020 Failed to lock, errno for fcntl = *errno*.

Explanation: Failed in fcntl() call to get lock.

User Response: Refer to reference information for fcntl().

0023-021 failed to unlock, errno for fcntl = *errno*.

Explanation: Failed in fcntl() call to unlock.

User Response: Refer to reference information for fcntl().

0023-022 Retrying...

Explanation: Blocking connect, so client attempting to connect to server again

0023-023 Quitting...

Explanation: JM client cannot connect to JM server.

0023-024 Select() timed out, timeout value of *timer.tv_sec* seconds.

Explanation: See the page for **select()**.

User Response: Follow the man page information.

0023-100 Can't tell if backup server is running.

Explanation: It could be a network or SDR problem.

User Response: Use **ps** on all candidate server nodes to determine whether the backup server is running, then act accordingly - kill/start or fix problem.

0023-101 Can't tell if jm server is already running.

Explanation: It could be a network or SDR problem.

User Response: Use **ps** on all candidate server nodes to determine whether the jm server is running, then act accordingly - kill/start or fix problem.

0023-102 jm server already running on *hostname*.

Explanation: A jmd is already running.

User Response: Either let it continue to run or kill it and try **jm_start** again.

0023-103 Response from *hostname*: SDR error.

Explanation: A jmd failed in SDR access.

User Response: Gather more information from jmd error log.

0023-104 Response from *hostname*: system error.

Explanation: A jmd failed.

User Response: Gather more information from jmd error log.

0023-105 Response from *hostname*: overlapping pools.

Explanation: Pools overlap. Nodes defined within separate Pools are the same.

User Response: Check jmd_config file.

0023-106 Response from *hostname*: overlapping subpools.

Explanation: Subpools overlap. Nodes defined within two subpools are the same.

User Response: Check **jmd_config** file.

0023-107 Unknown response from *hostname*: *response code*.

Explanation: Received invalid response. Could be connected to wrong server, or code bug.

User Response: Check for conflict in **jmd/ijmd** port number (in **/etc/services** of all nodes). Change/retry or report.

0023-108 Failed to start up jmd on any jm server node.

Explanation: Tried all nodes in **jmd_config** file's JM_LIST, all failed.

User Response: Follow each entry in **jmd_config** file's JM_LIST, check node name, network connection, configuration and status of **inetd/ijmd** on those nodes. Also, the file **/var/adm/SPlogs/jm/jmd_err** on that host may be helpful.

0023-109 Can't start jm backup daemon on any node.

Explanation: No backup jm daemon running.

User Response: Check **jmd_config** file JM_LIST nodes and verify at least 2 of the nodes are connectable.

0023-120 Error found in *file name*: line *line number*.

Explanation: Could be syntax error or node name failed the **gethostbyname**.

User Response: Change **jmd_config** file.

0023-121 POOL_ID *pool id* must have ATTRIBUTES.

Explanation: You must specify *ATTRIBUTES* for POOL_ID in **jmd_config** file.

User Response: Change **jmd_config** file.

0023-122 Illegal to have pool *pool id* again.

Explanation: A pool id can only appear once in the **jmd_config** file.

User Response: Change **jmd_config** file.

0023-123 Invalid pool definition - node *nodename* (or node *node number*) cannot appear twice.

Explanation: A node can only belong to one pool, and this one was already in previous/this pool. It could happen because the name was entered twice or, rarely, two different host names belongs to the same node number.

User Response: Change **jmd_config** file.

0023-130 SDROpenSession failed, rc = *SDR call return code*.

Explanation: SDR call failed.

User Response: Refer to the SDR message.

0023-131 SDRInitObjList error, rc = *SDR call return code*.

Explanation: SDR call failed.

User Response: Refer to the SDR message.

0023-132 SDRLockClass for *sdr_class* failed, rc = *SDR call return code*.

Explanation: SDR call failed.

User Response: Refer to the SDR message.

0023-133 SDRCreateObjects: object already exists.

Explanation: SDR call failed.

User Response: Refer to the SDR message.

0023-134 SDRFindAttrInObjects failed, rc = *SDR call return code***.**

Explanation: SDR call failed.

User Response: Refer to the SDR message.

0023-135 SDRChangeValues error, rc = *SDR call return code***.**

Explanation: SDR call failed.

User Response: Refer to the SDR message.

0023-136 Could not find node number for *hostname* **in SDR.**

Explanation: SDR data error or SDR call failed.

User Response: Correct system configuration, refer to the SDR message.

0023-137 Can't find reliable_hostname for node *node number* **in SDR.**

Explanation: SDR data error or SDR call failed.

User Response: Correct system configuration, refer to the SDR message.

0023-138 Time out locking SDR class.

Explanation: Could not get lock from SDR.

User Response: Retry later or stop contending process.

0023-139 Error occurred in SDRHdlr function.

Explanation: Actual error should be indicated by preceding message.

User Response: Refer to the response to preceding message.

0023-140 Missing JM_LIST in *file name***.**

Explanation: Either the JM_LIST keyword is missing or there is no value specified for it in the **jmd_config** file.

User Response: Change **jmd_config** file.

0023-141 Could not find the attribute processor_type for node *node_name* **in the SDR.**

Explanation: The processor_type attribute of the **Node** Class has not been set for this node.

User Response: Determine why SDR_config did not set the processor_type attribute and set the value.

0023-142 Node *node_name* **is defined as an MP node. Please remove it from the parallel pool definition and reconfigure.**

Explanation: MP nodes are not allowed within parallel pool definitions.

User Response: Remove the node from the parallel pool list.

0023-150 Send response failed.

Explanation: jmd not able to send response over the socket.

User Response: Check connection.

0023-151 Unrecognized message.

Explanation: Could be connected to wrong process.

User Response: Check for conflict in jmd/ijmd port number (in /**etc**/**services** of all nodes). Correct and retry or report.

0023-160 Failed to get jm server name from SDR.

Explanation: Data not available in SDR or SDR problem.

User Response: Verify first parameter to jm_connect_b/ub is valid, also check SDR data engine status.

0023-161 Connect jmd exceeded max times.

Explanation: Failed to get jm server name from SDR. Jm server is not running. May be caused because the backup server is taking too long to take over as primary, or there is no more server candidate after the primary crashed.

User Response: Check data engine, server status, and server list in **jmd_config** file.

0023-162 jm client is not connected to server.

Explanation: Client did not connect yet.

User Response: Call jm_connect_b/ub first.

0023-163 Got EOF from jm server.

Explanation: Lost connection with jm server.

User Response: Wait for the backup to take over.

0023-170 Changes made in SDR, but failed to notify jm because no jmd running.

Explanation: jm server is not running.

User Response: Start jm server.

0023-171 Changes made in SDR, but failed to notify jm.

Explanation: Do not know if jmd is running.

User Response: Find out what happened to jmd by issuing **ps** command. If jmd is running, then retry **jm_config**. Otherwise, jmd must be restarted.

0023-175 No jm server running.

Explanation: jm server is not running; nothing to stop.

0023-176 Can't tell if jm server is still running.

Explanation: Could be a network or SDR problem.

User Response: Issue **ps** on all candidate server nodes to determine whether the jm server is running, then act accordingly - kill or fix problem.

0023-177 Response from *hostname*: jmd can't be stopped now, try again later.

Explanation: Backup jmd is in the process of taking over as primary. Cannot stop now.

User Response: Try running the command later.

0023-201 Invalid value (*value*) for *field*.

Explanation: The field specified has an invalid value. Review documentation for allowable values for that field.

User Response: Specify one of the valid values and try again.

0023-202 Invalid value (*value*) for *field*, must be greater than *minimum value*.

Explanation: The field specified must have a value greater than that specified.

User Response: Specify a valid value and try again.

0023-203 *field* cannot be blank.

Explanation: The specified field cannot be blank.

User Response: Specify an appropriate string for the field and try again.

0023-204 *field* cannot contain blanks.

Explanation: The specified field cannot contain blanks.

User Response: Specify an appropriate string for the field and try again.

0023-205 Invalid value (*value*) for *field* in node *node number*.

Explanation: The field specified has an invalid value. Review documentation for allowable values for that field.

User Response: Specify one of the valid values and try again.

0023-206 Invalid value (*value*) for *field* in node *nodenum*, must be non_negative.

Explanation: The field specified has a negative value.

User Response: Specify a non_negative number for the field and try again.

0023-207 Invalid value (*value*) for *field* in node *nodenum*, must be greater than zero.

Explanation: The field specified must have a value greater than zero.

User Response: Specify a valid value and try again.

0023-209 Error reading from socket (*routine socket*).

Explanation: An error occurred reading from the socket specified. The connection to the server is removed (via **jm_disconnect**).

User Response: Call **jm_connect** to connect to the server once again.

0023-230 Error writing to socket (*routine socket*).

Explanation: An error occurred writing to the socket specified. The connection to the server is removed (via **jm_disconnect**).

User Response: Call **jm_connect** to connect to the server once again.

0023-301 Missing required flag *flag*.

Explanation: A required flag was not specified.

User Response: Re-invoke the function specifying the flag.

0023-304 Invalid parameter *parameter*, specify one of *valid parameters*.

Explanation: An invalid parameter was specified.

User Response: Re-invoke the function specifying valid parameters.

0023-305 Missing one of required flags *required flags*.

Explanation: A required flag is missing.

User Response: Re-invoke the function specifying one of the required flags.

0023-306 Flags *exclusive flags* are exclusive, specify only one.

Explanation: More than one of mutually exclusive flags was specified.

User Response: Re-invoke the function specifying only one of the exclusive flags.

0023-307 Invalid value (*value*) for flag *flag in error* must be greater than *minimum value*.

Explanation: The value specified is less than the minimum acceptable value for that flag.

User Response: Re-invoke the function specifying a valid value.

0023-309 Error connecting to server.

Explanation: An error occurred connecting to the server.

User Response: Check that the jm server is up and operational. Check that the control workstation name specified is correct.

0023-310 Error accessing data in database.

Explanation: An error occurred accessing the data required to process your request.

User Response: Check that the SDR is up and operational. Check that the jmd is also up and operational. Check **/var/adm/SPlogs/jm/jmd_err** on the primary Resource Manager server for more information regarding this error. If all is working correctly retry the request.

0023-311 Internal error.

Explanation: An internal error occurred.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-312 Error *return code* **received from** *function***.**

Explanation: A invalid return code was received from the specified function. A message issued by the function named should indicate the reason for the return code.

User Response: Investigate the error.

0023-313 Resource Manager recovery in progress, server not accepting connections. Wait 3 minutes and try again.

Explanation: The **jm_status command** tried to contact the server while recovery was in progress. The server waits three minutes for all existing clients to reconnect before accepting new clients.

User Response: Wait for three minutes to elapse and then reissue the command.

0023-400 Can't tell where the primary Job Manager server is running.

Explanation: It could be a network or SDR problem.

User Response: Issue **ps** on all candidate server nodes to determine whether the primary JM server is running (search for the jmd process), then act accordingly.

0023-401 Can't tell where the backup Job Manager server is running.

Explanation: Could be caused by a network or SDR problem.

User Response: Issue **ps** on all candidate server nodes to determine whether the backup JM server is running (search for the jmd process), then act accordingly.

0023-500 Directory *path* **does not exist.**

Explanation: The RM directory does not exist.

User Response: Check the install, re-install the RM if necessary, and rerun test.

0023-501 File *file name* **does not exist.**

Explanation: The RM file does not exists

User Response: Check the install, re-install the RM if necessary, and rerun test.

0023-502 Link *field* **does not exist.**

Explanation: The RM link does not exists.

User Response: Check the install, re-install the RM if necessary, and rerun test.

0023-503 Unable to verify *field***.**

Explanation: The RM file list contains an invalid type.

User Response: Check the file list in **rm_install_verify** and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-504 Entry for jmd does not exist in *field***.**

Explanation: Entry for jmd does not exist in **/etc/services** file.

User Response: Check the **/etc/services** file, add or uncomment jmd entry, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-505 Port number for jmd in *field* **is not** *correct port number***.**

Explanation: Port number for jmd in /etc/services file is not what it should be.

User Response: Check the **/etc/services** file, change jmd entry, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-506 Entry for ijmd does not exist in *file name***.**

Explanation: Entry for ijmd does not exist in **/etc/services** or **/etc/inetd.con** file.

User Response: Check the file, add or uncomment ijmd entry, and rerun test. If the problem persists, gather information about the

problem and follow local site procedures for reporting hardware and software problems.

0023-507 SDR class (*class*) does not exist.

Explanation: The named SDR class for RM does not exist.

User Response: Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-525 Unable to locate RM Primary Node *field*.

Explanation: Unable to locate RM Primary node in SDR.

User Response: Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-526 RM Primary Node (*node name*) does not seem operational.

Explanation: Unable to locate RM Primary node in SDR.

User Response: Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-527 Unable to locate RM Backup Node.

Explanation: Unable to locate RM Backup node in SDR.

User Response: Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-528 RM Backup Node (*field*) does not seem operational.

Explanation: Unable to locate RM Primary node in SDR.

User Response: Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-529 Implicit Node allocation test failed.

Explanation: Test to allocate a node implicitly using RM failed.

User Response: Check **jm_verify.log** for more data. Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-530 Explicit Node allocation for two nodes test failed.

Explanation: Test to allocate two node explicitly using RM failed.

User Response: Check **jm_verify.log** for more data. Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-531 Batch Node allocation test failed.

Explanation: Test to allocate a batch node using RM failed.

User Response: Check **jm_verify.log** for more data. Make SDR operational and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-601 Valid arguments for *input parameter name* **are (yes) or (no).**

Explanation: An input parameter other than **yes** or **no** was given.

User Response: Rerun with **yes** or **no** as input parameter.

0023-602 Error updating the SDR. Error code: *error code***.**

Explanation: An error was returned while trying to update the SDR.

User Response: Retry the command and if the SDR still fails, restart the RM servers. If this doesn't correct the problem, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0023-603 Error creating new /etc/jmd_config file. Data between file and SDR may be inconsistent. Return code: *error code***.**

Explanation: The **jmcmi_createjmdconfig** script returned an error. The **/etc/jmd_config**.*$sp_name* file was not created properly. The *$sp_name* is the environment variable set for system partitioning.

User Response: Run the **jmcmi_createjmdconfig** script by hand and check if the **/etc/jmd_config**.*$sp_name* file is created with the correct information. Also, check for file and directory permissions; only root can execute these commands.

0023-604 Error reconfiguring the Resource Manager.

Explanation: The **jm_config** command returned an error.

User Response: Issue **jm_config** from the command line. If the command still fails, follow the procedures for **jm_config** failure.

0023-605 SDR error, could not access (Pool) class with attribute pool_id.

Explanation: The SDR returned an error while trying to access the Pool class.

User Response: Follow standard procedures for SDR errors.

0023-606 Pool : *pool id* **is already defined. Please choose another Pool id.**

Explanation: The pool id chosen is already defined.

User Response: Choose a different pool id.

0023-607 Description/Attribute cannot contain white space.

Explanation: The attribute field contained white space.

User Response: Remove the white space from the attribute field and reenter.

0023-608 Description/Attribute cannot contain (=).

Explanation: The attribute field contained an equal sign.

User Response: Remove the equal sign from the attribute field and reenter.

0023-609 The keyword (all) is defined twice. Please redefine your subpool list.

Explanation: The keyword **all** cannot be defined twice within subpool definitions.

User Response: Remove one of the **all** keywords and reenter.

0023-610 The keywords (all) and (none) are mutually exclusive with node names. Please redefine your subpool list.

Explanation: The keywords **all** and **none** cannot be defined with node names within a subpool definition.

User Response: Remove the node name, **all** keyword or **none** keyword and reenter.

0023-611 Node : *node name* **is already defined within another pool.**

Explanation: The same node name is defined for two pools.

User Response: Remove the node name from one of the two pools or set the "Delete overlapping nodes?" option to **yes** from the SMIT panel.

0023-612 Please redefine the subpool lists.

Explanation: This message is generated when 0023-611 is found and the "Delete overlapping nodes?" option is set to **no**.

User Response: Redefine the subpool lists or set the option to **yes**.

0023-613 Node : *node name* **is already defined within another subpool for this pool.**

Explanation: The same node name is defined for two subpools of the same pool.

User Response: Redefine the subpool lists with only one occurrence of the node name.

0023-614 Node: *node name* **is not a valid node on this system.**

Explanation: The node name given is not a valid node for this system.

User Response: Add the node named to the system or correct the node name.

0023-615 Error trying to delete node *node name* **from (Pool) class. Error code:** *error code***.**

Explanation: The SDR returned an error while trying to delete the node name from the Pool class. This error message may occur when the same node is deleted twice.

User Response: Issue **jm_status -P** and check that the pool information is correct. If the information is not correct, follow standard SDR error procedures.

0023-617 gethostbyname(*node name***) failed.**

Explanation: The **gethostbyname** system call failed for this node name.

User Response: Redefine subpool list with valid node name.

0023-618 Could not find node number for *node name* **in SDR.**

Explanation: A valid node number is not defined for this node name.

User Response: Define a node number for this node name or redefine the subpool node list.

0023-619 The Pool selected cannot be deleted. Pool : *pool id* **is not defined. Please choose another pool id.**

Explanation: The pool id given does not exist on the system.

User Response: Select another valid pool id.

0023-620 Error removing Pool information from the SDR.

Explanation: An error occurred when trying to remove the pool information from the SDR.

Explanation: Follow standard procedures for SDR errors.

0023-621 Error updating the pool information in JM_domain_info. Data may not be consistent.

Explanation: An error occurred while trying to update the SDR.

User Response: Follow standard SDR error procedures.

0023-622 Error moving the original /etc/jmd_config.*$sp_name* **file. Error Code:** *error code***.**

Explanation: An error occurred while trying to move the original /**etc**/**jmd_config**.*$sp_name* file.

User Response: Check the file and directory permissions on /**etc** and /**etc**/**jmd_config**.*$sp_name*.

0023-623 Error trying to access the SDR.

Explanation: An error occurred while trying to read the SDR.

User Response: Follow standard SDR error procedures.

0023-624 Error opening the new /etc/jmd_config.*$sp_name* file.

Explanation: An error occurred during the Perl open call on **/etc/jmd_config**.*$sp_name*.

User Response: Check the file and directory permissions.

0023-626 The (1st Node in Server List) must be defined as a valid node. Please change your entry.

Explanation: The field for "1st Node in Server List" was defined with the keyword **none**.

User Response: Redefine the field to contain a valid node name.

0023-627 The keyword (none) has been specified with node names following it. Please make sure you specify (none) only when you have no further server nodes to add.

Explanation: The keyword **none** had a node name specified after it.

User Response: Redefine the field with either a node name or **none**.

0023-628 Node: *node name* **has already been listed. Please redefine your Server List.**

Explanation: The same node name was listed twice.

User Response: Redefine the Server List field.

0023-629 Pool ID must be an integer from -1 to 999999999.

Explanation: Pool id is not an integer between -1 and 999999999.

User Response: Redefine the Pool ID.

0023-630 All subpool definitions cannot be (none). Please redefine your subpool lists.

Explanation: Subpool definitions were all listed as none.

User Response: Redefine the subpool lists.

0023-631 Error writing the new /etc/jmd_config.*$sp_name* file.

Explanation: An error occurred during **jmcmi_createjmdconfig** while writing the new **/etc/jmd_config**.*$sp_name* file.

User Response: Check for file system space and rerun the command.

0023-632 This script must be executed on the control workstation.

Explanation: The configuration scripts must be executed on the control workstation only.

User Response: Execute the configuration script on the control workstation.

0023-633 Error *return_code* **received from** *function_called***.**

Explanation: A return code that was not valid was received from the specified function. A message issued by the function named should indicate the reason for the return code *return_code*.

User Response: Investigate the error.

0023-634 Valid arguments for *input_parameter_name* **are - "0" or "1".**

Explanation: The input parameter takes only "0" or "1" values, and value that was not valid was given.

User Response: Run again with the correct input values.

Chapter 34. 0025 - System Data Repository Messages

0025-001 A read lock has been obtained. Operations that create or change data are not allowed.

Explanation: You tried to change or create an SDR object with a read lock.

User Response: Refer to to the appendix on the System Data Repository in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information on setting authorizations.

0025-002 Lock could not be obtained. Another process has the class locked.

Explanation: User tried to update a locked class.

User Response: Try again or issue **SDRWhoHasLock** *class* to find the process that has the lock. The lock can be cleared with **SDRClearLock** *class* if the process that owns the lock is gone.

0025-003 Requestor already has lock on this class.

Explanation: A lock was requested but you already have a lock on the class.

User Response: None.

0025-008 Invalid parameter was passed.

Explanation: The wrong number of parameters was passed or a parameter was unrecognized.

User Response: Examine the command as issued and correct the problem.

0025-020 Class specified for creation already exists.

Explanation: You tried to use **SDRCreateClass** to create a new class that already exists.

User Response: None.

0025-022 The object specified for creation already exists.

Explanation: You tried to create a new object that already exists for the class.

User Response: None.

0025-024 The attribute specified for creation already exists.

Explanation: User tried to create a new attribute that already exists for the class.

User Response: None

0025-026 The class specified does not exist.

Explanation: You attempted an action on a class that does not exist.

User Response: Perform the action on an existing class or create a new class.

0025-028 The object specified does not exist.

Explanation: You attempted an action on an object that does not exist in the specified class.

User Response: Change the values that describe the object so that they match an existing object.

0025-030 An attribute specified does not exist.

Explanation: You attempted an action on an attribute that does not exist for the specified class.

User Response: Change the attribute to one that does exist for the class.

0025-032 Class is not locked by any process.

Explanation: You attempted to unlock a class that was not locked, or issued **SDRWhoHasLock** on a class that was not locked.

User Response: None.

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0025-034 Cannot find or convert active system partition name.

Explanation: The system partition name cannot be found or cannot be resolved to the requested format.

User Response: Omit or add the -n flag to prevent the resolution of the partition name.

0025-035 Cannot convert system partition name to desired format.

Explanation: The system partition name cannot be resolved to the requested format.

User Response: Omit or add the -n flag to prevent the resolution of the partial name.

0025-036 Source syspar and target syspar must not be the same.

Explanation: User attempted to move objects in the same system partition.

User Response: Specify a target system partition that is different from the source.

0025-037 Specified sdr subsystem already exists.

Explanation: An SDR subsystem that already exists was specified for creation.

User Response: Specify a subsystem name that does not already exist.

0025-038 The sdr subsystem specified failed to respond within the timeout period.

Explanation: The SDR subsystem specified failed to respond within the timeout period.

User Response: Perform problem determination procedures.

0025-060 AIX file name could not be read.

Explanation: A specified file could not be found or could not be opened.

User Response: Check the existence of the file and the permissions.

0025-061 SDR file already exists.

Explanation: You specified that a file should be saved in SDR but gave the name of an existing SDR file.

User Response: Issue **SDRReplaceFile** or use a unique file name.

0025-062 SDR file name not found.

Explanation: You asked to retrieve an SDR that was not found.

User Response: Specify an existing file.

0025-064 Cannot write or create AIX file name specified.

Explanation: You specified an AIX file name that cannot be written or created.

User Response: Check the permissions on the AIX file and directory.

0025-066 The /var filesystem on the control workstation is full. Make more space and process shadow files.

Explanation: The filesystem that contains the SDR data on the control workstation is full. The changes made by this process are lost.

User Response: Free space in **var** on the control workstation and refer to information on processing shadow files in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

0025-080 The SDR routine could not connect to server.

Explanation: Could not connect to SDR server.

User Response: Check the **SDR_dest_info** file. Refer to the appendix on the System Data Repository in the *IBM Parallel System Support Programs for AIX: Administration Guide*. Check the server on the control workstation to ensure it is running and follow the procedure in Chapter 5, “Diagnosing SDR Problems” on page 19 that outlines what to do when an SDR command fails to connect to the server.

0025-082 Authentication was denied.

Explanation: You are not authenticated to the SDR server.

User Response: Check elements of authentication in the admin guide. Refer to information on configuring the user home environment in the chapter on the system monitor in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

0025-083 Could not open authentication file.

Explanation: The file **/etc/SDR_dest_info** could not be opened.

User Response: Check file existence and user permissions.

0025-085 Format error in SDR_dest_info file.

Explanation: The file **/etc/SDR_dest_info** contained a format error.

User Response: Refer to the appendix on the System Data Repository in the *IBM Parallel System Support Programs for AIX: Administration Guide* for the correct file format.

0025-100 The system malloc routine failed.

Explanation: A call to allocate storage failed.

User Response: Contact the IBM Support Center.

0025-102 An internal data format inconsistency was detected.

Explanation: Internal SDR checking revealed a corrupted class or other corrupted data.

User Response: Contact the IBM Support Center.

0025-104 A system routine returned a bad return code.

Explanation: A system call unexpectedly failed.

User Response: Contact the IBM Support Center.

0025-108 Could not obtain local hostname.

Explanation: The **gethostname**() routine failed.

User Response: Contact the IBM Support Center.

0025-110 Read or write operation on socket failed.

Explanation: Reading or writing the client or server tcp socket failed. The SDR server or client may have terminated unexpectedly.

User Response: Contact the IBM Support Center.

0025-112 Client attempted to move objects with class cached.

Explanation: This is a programming error in the program that uses the SDR client library.

User Response: Contact the IBM Support Center.

0025-301 The sdr.*syspar* subsystem must be stopped before removing it.

Explanation: The sdr command was issued to remove an **sdrd** SRC definition from the system. The SDR subsystem must be stopped before it can be removed.

User Response: Issue **sdrd -spname** *syspar* **stop**.

0025-303 sdrd is not executable; SRC object sdr.*syspar* not made.

Explanation: The **sdrd** binary in **/usr/lpp/ssp/bin** is not executable.

User Response: Use the **chmod** command to make the **sdrd** binary in **/usr/lpp/ssp/bin** executable.

0025-306 Invalid sdr parameter *parameter*.

Explanation: An unrecognized parameter was passed to the **sdr** command.

User Response: Check the parameters and issue the command again.

0025-307 sdr usage: sdr [-spname *syspar*] start | stop | reset | query | qall | mksrc | qsrc | rmsrc

Explanation: An unrecognized parameter or no parameter was passed to the **sdr** command.

User Response: Check the parameters and issue the command again.

0025-308 The code reached a path that was unexpected.

Explanation: The **sdr** command reached a code path that is in error.

User Response: Contact the IBM Support Center.

0025-500 SDRWhoHasLock class_name

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-501 SDRCreateClass class_name attr=datatype [attr=datatype...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-502 SDRCreateObjects class_name attr=value [attr=value...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-503 SDRCreateAttrs class_name attr=datatype [attr=datatype...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-504 SDRChangeAttrValues class_name [attr==value...] attr=value [attr=value...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-505 SDRGetObjects [-q] [-G] [-x] [-d delimiter] class_name [attr==value...“ [attr...“

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-506 SDRDeleteObjects class_name [attr==value...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-507 SDRClearLock class_name

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-508 SDRCreateFile AIX_filename SDR_filename

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-509 SDRRetrieveFile SDR_filename AIX_filename

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-510 SDRReplaceFile AIX_filename SDR_filename

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-511 SDRDeleteFile SDR_filename

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-512 SDRArchive

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-513 SDRRestore archive_file

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-514 SDRListClasses

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-515 SDRListFiles

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-516 SDRCreateSystemClass class_name attr=datatype [attr=datatype...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-517 SDRCreateSystemFile AIX_filename SDR_filename

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-518 SDRMoveObjects source_syspar target_syspar class_name [attr==value...]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-519 spget_syspar [-n] [-d]

-n means print the hostname (default is ip address)

-d means print address/hostname of default system partition

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-520 splst_syspars [-n]

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-600 Usage: \n\n splst_versions [-G] [-l] [-e] [-n node_num | -N node_group] [-t] [-h].

Explanation: Syntax error displays the usage message.

User Response: Correct the syntax.

0025-601 Flag *flag_name* **not expected or used without required argument.**

Explanation: splst_versions detected either a flag it does not allow or a flag it allows that is missing a required argument.

User Response: Correct the syntax.

0025-602 Node group specified *nodegroup_name* **resolved to 0 nodes.**

Explanation: splst_versions was called with the **-N** flag to specify a nodegroup. The nodegroup specified has no nodes in it.

User Response: Specify a target that contains nodes.

0025-603 An SDR routine internal to this program returned rc=*return_code***.**

Explanation: The **splst_versions** subroutine (not the command line) failed internally. The return code specified is an SDR return code.

User Response: Check the SDR return code to determine the cause of the problem.

0025-604 The popen subroutine returned NULL trying to run the command *command_name*.

Explanation: The **splst_versions** command tried to use **popen** to run the command to resolve a nodegroup. **popen** failed to run the command.

User Response: Try running the command from a shell command line.

0025-605 A record returned from the command *command_name* was not a number. The record is *record_name*.

Explanation: The **splst_versions** command used **popen** to run the command to resolve a nodegroup. A record returned was not a number, though a number was expected.

User Response: Try running the command from a shell command line.

0025-606 The command *command_name* returned more nodes than the space allocated. The number allocated is *max_number_nodes*.

Explanation: An internal buffer overflowed.

User Response: A programming change is required.

0025-607 The command *command_name* ended abnormally from popen. The *command_exit_status* is the signal causing the abnormal end.

Explanation: A command running with **popen** ended abnormally.

User Response: None.

0025-608 The command *command_name* ended with rc=*return_code*.

Explanation: A command running with **popen** ended with an error.

User Response: None.

0025-609 The splst_version command could not complete because data was missing in the SDR.

Explanation: The **splst_version** command expected certain data to be present, however that data was missing.

User Response: Check each node object's *code_version* attribute.

0025-610 Information about a node(s) could not be found in the SDR.

Explanation: The command expected certain data to be present, however that data was missing.

User Response: Check that the node exists in the node class of the SDR and that the *code_version* attribute is present.

0025-613 An SDR routine internal to this program failed. The message from that routine is: <*message*>.

Explanation: The SDR is not configured yet or is not configured properly. The network or control workstation is not operating properly.

User Response: Find the source of the problem indicated by the message in <*message*>.

0025-614 An internal error prevented this command from completing.

Explanation: An internal error was encountered. A more detailed message will follow this one, explaining the nature of the error.

User Response: Read the message that is output after this one for more detailed information about the problem.

0025-615 Unable to resolve nodegroup <*nodegroup_name*>.

Explanation: The program tried to resolve the nodegroup named in *%2$s*. A failure occured.

User Response: Read the message that is output after this one for more detailed information about the problem.

0025-616 The following attribute(s) were requested but do not exist: *<comma-separated attr list>*.

Explanation: The user entered one or more arguments on the command line that the command found to be invalid as attribute names. It may be the case that the user used the wrong syntax- such as putting a "-" flag after a command argument.

User Response: Examine the list of attributes that were noted as being invalid and determine if the command was entered with the wrong syntax or if the attribute names are, in fact, invalid.

0025-617 No objects were found with the attribute value(s) specified.

Explanation: The user entered one or more arguments on the command line of the form *<attr>==<value>*. The command could not find any objects whose value of *<attr>* matched *<value>*.

User Response: No action necessary. Object does not exist.

0025-618 The following attribute was specified multiple times. *<[attribute]>*

Explanation: The user entered the same attribute name (to be returned in the output) more than once. For example: splstnodes node_number node_number

User Response: Remove duplicates in the command invocation and reinvoke command.

0025-619 The following attribute was specified as a search argument multiple times. *program name issuing message*

Explanation: The user entered the same attribute name as a search argument- <attr==value> more than once. For example:

```
splstnodes node_number==1 node_number==3
```

User Response: Remove duplicates in the command invocation and reinvoke command.

Chapter 35. 0026 - spmon Messages

0026-001 Opening session failed.

Explanation: Could not connect to **hardmon** daemon.

User Response: Check environment variables and authorization mechanisms described in in the chapter on using the system monitor in *IBM Parallel System Support Programs for AIX: Administration Guide*.

0026-004 Target flag found but no target found.

Explanation: The -t option was the last token on the line passed.

User Response: Add a target to the command.

0026-005 Two key flags (-key) found.

Explanation: Two key flags were found. Only one is allowed.

User Response: Remove one of the key flags.

0026-006 Key flag found but no key setting followed it.

Explanation: A key flag (**-key**) was found but no key setting was found after it.

User Response: Add the desired key setting (normal/secure/service) directly after the key flag.

0026-007 Two power flags (-power) found.

Explanation: Two power flags were found. Only one is allowed.

User Response: Remove one of the power flags.

0026-008 Power flag found but no power setting followed it.

Explanation: A power flag was found but a setting did not follow it.

User Response: Add a power setting (on/off) directly after the power flag.

0026-009 Two mux flags (-mux) found.

Explanation: Two mux flags were found in the parameter list.

User Response: Remove one of the mux flags.

0026-010 Mux flag found but no setting followed it.

Explanation: A mux flag (**-mux**) was found in the parameter list but no value followed.

User Response: Add the desired value (i | 1 | 2 | 3) after the mux flag.

0026-011 Connect flag found but no setting followed it.

Explanation: A connect flag (**-c**) was found by no parameter followed it.

User Response: After the connect flag enter the host name to connect to.

0026-012 Cannot do more than one of (query, power, reset, key, open, mux, Key, Led) in one command.

Explanation: More than one flag specifying action was found.

User Response: Remove all but one flag to specify the action of the command.

0026-013 Invalid value for power flag. Must be 'off' or 'on' or any unique abbreviation.

Explanation: The value following the power flag (**-p**) was not recognized.

User Response: Put `on` or `off` after the power flag.

0026-014 Invalid value for key flag. Must be 'normal', 'secure', or 'service' or any unique abbreviation.

Explanation: The value following the key flag was not recognized.

User Response: Put `normal`, `secure` or `service` after the key (**-k**) flag.

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0026-015 Ambiguous value for key flag. Could be 'secure' or 'service'.

Explanation: The user entered `s` or `se` after the key flag.

User Response: Put `normal`, `secure` or `service` after the key (**-k**) flag.

0026-016 Unrecognized mux value. Expecting i, 1, 2, or 3.

Explanation: You did not enter an acceptable value after the mux (**-mux**) flag.

User Response: Put i | 1 | 2 | 3 after the mux flag.

0026-017 0026-017 No target for command specified.

Explanation: The command required a target (**-t** flag) but none was entered.

User Response: Enter a target for the command using the **-t** flag.

0026-018 Target alias incorrect. Must be 'nodeNN' or 'frameN/switch'.

Explanation: Could not parse frame and node out of target.

User Response: Refer to the chapter on using the system monitor in the *IBM Parallel System Support Programs for AIX: Administration Guide* for correct target syntax.

0026-019 Target node is out of range.

Explanation: The target node is greater than the number of nodes in a frame.

User Response: Specify a correct target node.

0026-020 Could not parse frame and node numbers out of target. Expecting /SP/frame/frameN/nodeN or alias.

Explanation: The target is incorrect.

User Response: Refer to the chapter on using the system monitor in *IBM Parallel System Support Programs for AIX: Administration Guide* for correct target syntax.

0026-021 The frame specified does not exist.

Explanation: The frame number is invalid (less than 1) or does not exist.

User Response: Refer to the chapter on using the system monitor in the *IBM Parallel System Support Programs for AIX: Administration Guide* for correct target syntax.

0026-023 Frame power 'on' command ended in error.

Explanation: The command to power on frame power supplies did not work.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-024 Frame power 'off' command ended in error.

Explanation: The command to power off frame power supplies did not work.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-025 Power command ended in error.

Explanation: The command to power a node on or off did not work.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-026 Reset command ended in error.

Explanation: The command to reset a node did not work.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-027 Key command (-key) ended in error.

Explanation: The command to change the key setting on a node did not work.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-029 Error setting clock mux.

Explanation: An error was encountered trying to set the clock mux on a switch.

User Response: Make sure the frame specified exists. Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-031 The -Key query command ended in error.

Explanation: Querying the system monitor returned something other than 0, 1, or 2.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63.

0026-033 The -Led query command ended in error.

Explanation: Something went wrong with the **Led** command.

User Response: Make sure the specified node specified exists. Follow the troubleshooting steps in *IBM Parallel System Support Programs for AIX: Administration Guide*.

0026-034 A switch is not a valid target for the -K or -L flag.

Explanation: For the **-Key** and **-Led** flags, a switch cannot be targeted since they do not have key switches or 7-segment leds.

User Response: Target a node rather than the switch.

0026-035 Target alias incorrect. Must be 'nodeNN' or 'frameY/nodeX'.

Explanation: The target is not in valid syntax.

User Response: Input a valid target.

0026-037 Target *full_target_path* **not supported.**

Explanation: The target of the **spmon** command issued was not recognized by the hardware monitor.

User Response: Check the *IBM Parallel System Support Programs for AIX: Administration Guide* for valid targets.

0026-038 The target *unsupported_targett* **is not supported. Targets must end with "/value".**

Explanation: The target of the **spmon** command issued was not correct. The only attribute that may be queried for hardware variables is "value". Therefore, every target should end with "/value".

User Response: Check the *IBM Parallel System Support Programs for AIX: Administration Guide* for valid targets.

0026-039 Building the query in the monitor client failed.

Explanation: The **fcBuildQuery** call failed. This is likely a system or internal error. User errors should have been caught in parsing.

User Response: Contact the IBM Support Center.

0026-040 The query failed. Access was denied or target does not exist.

Explanation: The hardware monitor returned an error. Either access was denied or the hardware node/switch/frame targeted does not exist.

User Response: Check access lists to see if access should have been granted. Check target to ensure hardware exists.

0026-041 Hardware monitoring (spmon) ended.

Explanation: The **spmon** command with **-M** option ended. The process was either interrupted (with a signal) or the client lost the connection to the hardware monitor.

User Response: Make sure the hardware monitor is running.

0026-042 Individual frame power supplies cannot be targeted. Please use the frame as the target.

Explanation: The target used for powering on/off a frame is incorrect. The whole frame must be powered on/off. The single supplies within the frame cannot be addressed individually (as they were in SP1).

User Response: Supply a frame target.

0026-043 **Host_responds error:** *error_message*.

Explanation: This message number is used for reporting a variety of messages in the routines that connect to the **hr** daemon.

User Response: Make sure the **hr** daemon is running. If it is, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-100 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Frame supervisor does not respond.**

Explanation: RS232 cable not connected or frame supervisor problem.

User Response: Refer to Chapter 4, “Diagnosing Frame Supervisor Communication Problems” on page 17.

0026-101 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Supervisor not responding for slot.**

Explanation: A node has been unplugged, or the supervisor bus has failed.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-102 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Supervisor bus failure.**

Explanation: Failure of the supervisor bus, frame supervisor, or power unit.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-103 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Hardware failure detected - power off.**

Explanation: A hardware failure has occurred that has caused a power off of a node or switch.

User Response: If the hardware failure is due to a temperature problem, check your air conditioning system. Gather information about the problem and follow local site procedures for reporting hardware and software problems. unless the hardware failure is cleared.

0026-104 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Hardware failure detected - delayed power off.**

Explanation: A hardware failure has occurred that will cause a delayed power off of a node or switch if the condition that caused the failure is not cleared.

User Response: If the hardware failure is due to a temperature problem, check your air conditioning system. Gather information about the problem and follow local site procedures for reporting hardware and software problems unless the hardware failure is cleared.

0026-105 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Hardware warning detected.**

Explanation: A temperature or voltage value is marginally out of range. A hardware failure may occur soon.

User Response: If the problem persists, Gather information about the problem and follow local site procedures for reporting hardware and software problems, unless the hardware failure is cleared.

0026-106 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Power module not installed.**

Explanation: A previously installed frame power module has been removed.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-107 *Severity*; *Hardware type*; *Frame number*; *Slot number*; *Variable name*; **Power module - DC power loss.**

Explanation: A frame power module has lost power.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-109 *msg_severity*; *hardware_type*; *frame*; *node*; *msg_variable*; **Power supply failure.**

Explanation: The indicated power supply has failed and must be replaced.

User Response: Gather information about the problem and contact the IBM Support Center.

0026-110 *msg_severity*; *hardware_type*; *frame*; *node*; *msg_variable*; **Threshold shutdown.**

Explanation: Either one or both of the power supplies has exceeded a maximum threshold value and must be replaced.

User Response: Gather information about the problem and contact the IBM Support Center.

0026-111 *msg_severity*; *hardware_type*; *frame*; *node*; *msg_variable*; **Power detector failure.**

Explanation: The ability to detect power supply failures is not operational.

User Response: Gather information about the problem and contact the IBM Support Center.

0026-600 Internal program error, invalid message index *value*.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-601 The *flag* **flag requires an argument.**

Explanation: The argument for the specified flag was not supplied to the command.

User Response: Either specify a valid flag argument or remove the flag. See the man page for the command for valid flag arguments.

0026-602 You must specify a VFOP command.

Explanation: A VFOP command was not specified on the command line.

User Response: Specify the Virtual Front Operator Panel command to send to the hardware.

0026-603 You must specify a valid VFOP command (*command* **is invalid).**

Explanation: A valid VFOP command was not specified on the command line.

User Response: Specify a valid Virtual Front Operator Panel command to send to the hardware.

0026-604 You must specify one or more slot specifications or the “all” keyword.

Explanation: The **hmcmds** command requires that one or more slot specifications be specified on the command line. Otherwise, the “all” keyword may be supplied if the VFOP command is “on” or “off”.

User Response: Specify slot specifications or the “all” keyword. However, exercise extreme caution in using the “all” keyword since you can power off the entire SP system, resulting in loss of data and termination of all jobs.

0026-605 Could not allocate memory.

Explanation: An internal program problem occurred in the named command.

User Response: Save the error message, gather information about the problem, and follow local site procedures for reporting hardware and software problems.

0026-606 The *command* VFOP command requires one or more slot specifications.

Explanation: The named VFOP command requires that you supply one or more slot specifications on the command line.

User Response: Supply one or more slot specifications on the command line.

0026-607 Configuration information cannot be obtained from the SDR.

Explanation: The named command either cannot establish a session with the System Data Repository or the SDR does not contain the required Hardware Monitor configuration information.

User Response: Verify that the SDR has been properly configured and that the Hardware Monitor configuration information is present in the SDR. Refer to the man page for the **hardmon** command for a description of this configuration information. If this command has been executed on a workstation other than the control workstation, also verify that the `SP_NAME` environment variable is defined to the host name of the control workstation prior to running this command.

0026-608 Configuration information from the SDR is invalid.

Explanation: While the named command has successfully obtained configuration information from the System Data Repository, the information is incomplete or in an incorrect format.

User Response: Verify that the SDR has been properly configured and that the Hardware Monitor configuration information is present in the SDR. Refer to the man page for the **hardmon** command for a description of this configuration information.

0026-609 The SDR contains an invalid frame number.

Explanation: One of the objects in the Frame class in the System Data Repository contains a frame number that is not within the permitted range of the Hardware Monitor. This range begins with 1 and increases to the number of frames supported by the current release of the SP System.

User Response: Verify that the Frame objects in the SDR contain valid frame numbers.

0026-610 A duplicate frame ID (*id*) was found.

Explanation: A slot specification argument to the named command contained a duplicate frame ID.

User Response: Provide slot specifications to the named command without duplicate frame ID.

0026-611 The SDR contains a duplicate frame number.

Explanation: One of the objects in the Frame class in the System Data Repository contains a frame number that is a duplicate of the frame number in another object in the Frame class.

User Response: Verify that the Frame objects in the SDR contain unique frame numbers.

0026-612 Could not connect to Hardware Monitor (*frame_id*).

Explanation: The named command could not make a connection to a Hardware Monitor daemon. If the frame ID is not 0, and there are more than one Monitor and Control Nodes, then the MACN to which the indicated frame is connected via a RS-232 link is the system to which a connection could not be made. Note that the frame ID will be non-zero if slot specifications were supplied on the command line. This message may be preceded by another message indicating the reason the connection could not be made.

User Response: If another message precedes this one, then follow the action for that message. Otherwise, verify that the Hardware Monitor daemon is running on all Monitor and Control Nodes and that you have network connectivity to the MACNs. You can enter the command **ps -ef | grep hardmon** on a MACN to determine if the daemon is running. Also examine the daemon log file **/var/adm/SPlogs/spmon/hmlogfile.***nnn* for errors.

0026-613 The frame ID *id* does not match a configured frame.

Explanation: The frame ID provided in a slot specification to the named command does not match any frame currently configured to the Hardware Monitor.

User Response: Verify that the slot specification you supplied on the command line is correct. If it is, then verify the frame configuration in the Frame class in the System Data Repository.

0026-614 You do not have authorization to access the Hardware Monitor.

Explanation: In order to access the Hardware Monitor you must have an Access Control List configured in the /**etc**/**hmacls** file. The user ID in the ACLs must match the Kerberos principal name you used with the **kinit** command.

User Response: Verify that you have ACLs present in the /**etc**/**hmacls** file and that they are correct.

0026-615 You cannot be authenticated to the Hardware Monitor.

Explanation: In order to access the Hardware Monitor you must have executed the **kinit** command (or performed equivalent procedures unique to your site). This error typically occurs when you attempt to execute the named command without first having executed **kinit**. Another reason this error may occur is if the ticket obtained by **kinit** has expired. This message is preceded by another message that provides more detailed error information.

User Response: Execute the **kinit** command (or equivalent site unique procedure) and rerun the command. If the same error occurs use the detailed error message to determine the proper action.

0026-616 Internal program error, no state defined.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-617 Internal program error, session not started.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-618 Internal program error, no connection for frame *id*.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-619 Internal program error, no slots for frame *id*.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-620 Internal program error, no frame ID list.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-621 Internal program error, bad command.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-622 Internal program error, bad parameter.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-623 Internal program error, select mask too small.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-624 Select failed: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-625 Internal program error, bad file descriptor.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-626 Could not read data from hardware monitor daemon.

Explanation: The named command could not read data from the Hardware Monitor daemon. This message should be preceded by a more detailed error message.

User Response: If another messages precedes this one, then follow the action for that message. Otherwise, verify that the Hardware Monitor daemon is running on all Monitor and Control Nodes and that you have network connectivity to the MACNs. You can enter the command **ps -ef | grep hardmon** on a MACN to determine if the daemon is running. Also examine the daemon log file **/var/adm/SPlogs/spmon/hmlogfile.***nnn* for errors.

0026-627 The hardware monitor daemon has disconnected.

Explanation: The Hardware Monitor daemon has disconnected its end of the session with the named command.

User Response: Verify that the Hardware Monitor daemon is running on all Monitor and Control Nodes and that you have network connectivity to the MACNs. You can enter the command **ps -ef | grep hardmon** on a MACN to determine if the daemon is running. Also examine the daemon log file **/var/adm/SPlogs/spmon/hmlogfile.***nnn* for errors.

0026-628 A signal has been received.

Explanation: The named command has received a signal.

User Response: Execute the command again.

0026-629 An invalid variable ID was found.

Explanation: The named command has detected an invalid variable ID in a response from the Hardware Monitor daemon.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-630 Internal program error, bad vtab entry.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-631 Cannot obtain query information for the following:

Explanation: The named command could not obtain query information for the slots displayed after this message. This error occurs if you do not have Monitor authorization for the frames containing these slots or if the specified slots do not contain any hardware components. A slot contains a processing node, a switch or represents the frame itself (slot 0).

User Response: Verify that you have access to the specified frames.

0026-632 You cannot specify both *flag* and *flag*.

Explanation: For the named command, you cannot specify both of the indicated flags.

User Response: Remove one or both flags and rerun the command.

0026-633 You cannot specify -V and any other parameter.

Explanation: The **-V** flag cannot be specified along with any other parameter to the named command.

User Response: Remove either the **-V** flag or the other parameters and rerun the command.

0026-634 *name* is not a valid state variable name.

Explanation: You have specified an invalid state variable name with the **-v** flag.

User Response: You can use the **-V** flag to obtain a list of valid state variable names.

0026-635 You must specify a valid operation (*operation* is invalid).

Explanation: A valid administrative operation was not specified on the command line.

User Response: Specify a valid administrative operation.

0026-636 The environment variable S1TERMESC is not properly defined. It must be set to a value from 0 to 255.

Explanation: The `S1TERMESC` environment variable can be used to specify the termination character for the named command. It must be set to an octal, decimal or hexadecimal value, from 0 thru 255, that is the value of the terminal character. For example, if the termination character is Control-X, set `S1TERMESC` to 030, 24 or 0x18.

User Response: Either remove the variable `S1TERMESC` from your environment or set it to a correct value.

0026-638 Cannot set SIGALRM: *system_error_message* (*error number*).

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-639 Cannot set signal mask: *system_error_message* (*error number*).

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-640 Unexpected return value from hm_start_session.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-641 tcgetattr failed: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-642 tcsetattr failed: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-643 Unanticipated completion response (*code***) to hm_s1connect().**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-644 The S1 port in frame *id* **slot** *id* **is already open for write.**

Explanation: The specified S1 serial port is already open for read/write by another program. Only one program at a time can open a S1 port for read/write. Any number of programs may open the same S1 port for read.

User Response: Retry the named command at a later time.

0026-645 The S1 port in frame *id* **slot** *id* **cannot be accessed. It either does not exist or you do not have S1 permission.**

Explanation: The specified S1 serial port cannot be accessed. This message occurs when no processing node is located in the specified frame and slot or if you do not have a Hardware Monitor ACL with S1 permission for the specified frame.

User Response: Verify that the specified frame and slot contain a processing node and that you have S1 permission for the frame.

0026-646 Unanticipated error response (*code***) to hm_s1connect().**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-647 Error detected while reading standard input: *system_error_message* **(***error_number***).**

Explanation: The named command detected an error while reading standard input.

User Response: You can use the system error message to determine the cause of the error. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-648 Cannot set/reset interval timer: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-649 Received data from wrong slot: *id***.**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-650 Received data from wrong frame: *id***.**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-651 Received data with unexpected type.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-652 Cannot open *file_name***:** *system_error_message* **(***error_number***).**

Explanation: The named file could not be opened due to the reason supplied by the system error message.

User Response: Correct the problem specified by the system error message and rerun the command.

0026-653 Cannot stat *file_name***:** *system_error_message* **(***error_number***).**

Explanation: Status information for the named file could not be obtained due to the reason supplied by the system error message.

User Response: Correct the problem specified by the system error message and rerun the command. If the problem cannot be corrected, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-654 The slot ID specification file *file_name* **is empty.**

Explanation: The slot ID specification file you supplied to the named command is empty. This file must contain one slot ID specification per line.

User Response: Rerun the command with a properly formatted slot ID specification file.

0026-655 Cannot read *file_name***:** *system_error_message* **(***error_number***).**

Explanation: The named file could not be read due to the reason supplied by the system error message.

User Response: Correct the problem specified by the system error message and rerun the command. If the problem cannot be corrected, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-656 The slot ID specification file *file_name* **contains NULLs.**

Explanation: The slot ID specification file you supplied to the named command contains NULLs. This file must be an ASCII file, containing one slot ID specification per line.

User Response: Rerun the command with a properly formatted slot ID specification file.

0026-657 The slot ID specification is longer than *string_size* **characters:** *slot_ID_specification***.**

Explanation: The slot ID specification you supplied is longer than the permitted string size.

User Response: Rerun the command with a shorter slot ID specification.

0026-658 The slot ID specification *slot_ID_specification* contains an invalid range.

Explanation: The slot ID specification contains an invalid range of numbers.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-659 The slot ID specification *slot_ID_specification* contains an invalid slot number.

Explanation: The slot ID specification contains an invalid slot number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-660 The slot ID specification *slot_ID_specification* is missing a slot number.

Explanation: The slot ID specification is missing a slot number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-661 The slot number *number* in *slot_ID_specification* is greater than *maximum_slot_number*.

Explanation: The specified slot number in the slot ID specification is larger than the maximum slot number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-662 Slot number required in *slot_ID_specification*.

Explanation: The named command requires that the slot ID specification include a slot number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-663 The slot ID specification *slot_ID_specification* contains an invalid frame number.

Explanation: The slot ID specification contains an invalid frame number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-664 The slot ID specification *slot_ID_specification* is missing a frame number.

Explanation: The slot ID specification is missing a frame number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-665 The frame number *number* in *slot_ID_specification* is not valid.

Explanation: The specified frame number in the slot ID specification is not a configured frame number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-666 The slot ID specification *slot_ID_specification* contains an invalid node number.

Explanation: The slot ID specification contains an invalid node number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-667 The slot ID specification *slot_ID_specification* is missing a node number.

Explanation: The slot ID specification is missing a node number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-668 The node number *number* in *slot_ID_specification* is not valid.

Explanation: The specified node number in the slot ID specification is not a configured node number.

User Response: Rerun the command with a properly formatted slot ID specification.

0026-669 Cannot obtain a service ticket for the Hardware Monitor.

Explanation: In order to access the Hardware Monitor you must have executed the **kinit** command (or performed equivalent procedures unique to your site). This error typically occurs when you attempt to execute the named command without first having executed **kinit**. Another reason this error may occur is if the ticket obtained by **kinit** has expired. This message is preceded by another message that provides more detailed error information.

User Response: Execute the **kinit** command (or equivalent site unique procedure) and rerun the command. If the same error occurs use the detailed error message to determine the proper action.

0026-670 Unknown hm_errno value.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-673 The SDR contains an invalid node number.

Explanation: One of the objects in the Syspar_map class in the System Data Repository contains a node number that does not map to a configured frame ID, as given by the relation (node_num+15)/16 = frame_id.

User Response: Verify that the Syspar_map objects in the SDR contain valid node numbers.

0026-678 There are no application microcode files in *microcode_file_directory* that match the filter *microcode_file_filter*.

Explanation: The named command builds a file filter of the form *u_BB.KK.VVVV* from the data contained in the base packet for the target node. The named directory did not contain a microcode file that matched the filter.

User Response: Make sure that a microcode file that matches the named filter exists in the named directory.

0026-679 The application microcode file *microcode_file* is empty.

Explanation: The named microcode file exists but has a length of zero.

User Response: Make sure that target node has a valid microcode file.

0026-680 The latest level file of application microcode found is back-level from the microcode already loaded. File: *microcode_file_found*, Loaded: *microcode_file_already_loaded*. File will not be loaded.

Explanation: The level of microcode currently loaded on the target node is more recent than the latest level of microcode found.

User Response: To install a version of microcode that is back-level from the installed version, use the **-u** command to override **hmcmds** level checking. Otherwise, make sure that a microcode file that is greater than or equal to the current level loaded exists.

0026-681 Use of the -u flag is only allowed with the microcode command.

Explanation: Use the **-u** flag to specify a specific microcode file that is to be loaded to the target node. The flag only has meaning when used with the named command.

User Response: Use this flag only with the named command.

0026-682 Length of data transmitted does not match length of data echoed.

Explanation: During the microcode download process, the target basecode supervisor echoes the data it receives back to the named command. The named command detected that the number of bytes sent did not match the number of bytes echoed.

User Response: Issue the command again. If the problem persists, contact IBM Support.

0026-683 Checksum error detected during microcode download.

Explanation: During the microcode download process, the target basecode supervisor calculates a checksum of the data it receives on a record by record basis. The supervisor detected a checksum error.

User Response: Issue the command again. Make sure that the file to be loaded is a supervisor microcode file that is compatible with the target slot. If the problem persists, contact the IBM Support Center.

0026-684 Byte count error detected during microcode download.

Explanation: During the microcode download process, the target basecode supervisor keeps a count of the number of bytes it expects to receive for each data transmission. The supervisor detected a byte count error.

User Response: Issue the command again. If the problem persists, contact the IBM Support Center.

0026-685 Invalid record type error detected during microcode download.

Explanation: The target basecode supervisor has detected a record type that is not valid during data transmission.

User Response: Issue the command again. Make sure the file to be loaded is a supervisor microcode file that is compatible with the target slot.

0026-686 FEEPROM erase error detected during microcode download.

Explanation: The target basecode supervisor was unable to erase the FEEPROM in preparation for the microcode download. The FEEPROM has an erase to successful rewrite threshold.

User Response: Issue the command again. If the problem persists, contact IBM Support to determine the threshold value. If the threshold limit is exceeded, replace the card.

0026-687 Verification error detected during microcode download.

Explanation: The target basecode supervisor was able to write to FEEPROM the data it received, but was unable to verify the data's integrity.

User Response: Issue the command again. If the problem persists, contact IBM Support.

0026-688 Unexpected error detected during microcode download. Error Code=*error_code***.**

Explanation: An unexpected error was detected.

User Response: Save the error code information and contact the IBM Support Center.

0026-690 System call ***system_call*** **failed:** ***system_error_message*** **(***error_number***).**

Explanation: The named system call *system_call* failed due to the reason supplied by the *system_error_message*. The *error_number* returned by the system call is also provided.

User Response: Correct the problem indicated by the system error message. If the problem cannot be corrected contact the IBM Support Center.

0026-691 The -q, -r, -m, and -u flags are mutually exclusive.

Explanation: This message is displayed if more than one of these options is entered.

User Response: Enter only one of these options for each invocation.

0026-692 The hardware associated with the specified slot specification does not support microcode download.

Explanation: The named command works only on hardware that supports the ability to download supervisor microcode to that hardware.

User Response: Ensure the slot specification includes hardware that supports microcode download. Use the **spsvrmgr -G -r status all** command or the **smit supervisor** command to determine the hardware in your configuration that supports microcode download.

0026-693 Process *process_id*" **for frame** *frame_number* **slot** *slot_number* **failed, exit status (***exit_status***). The contents of the generated log file follows.**

Explanation: When the **-u** flag is used with the named command, the named command creates processes that will update the specified hardware with the most current level of supervisor microcode. This message is issued for each of those processes that failed, and is followed by the contents of the log file that was generated by the created process.

User Response: Correct the problem reported by the generated log file and try the command again. If the problem persists, contact the IBM Support Center.

0026-694 *command_to_execute* **command was not sent to frame** *frame_number* **slot** *slot_number***.**

Explanation: When the **-u** flag is used with the named command, the named command creates processes that are intended to update the specified hardware with the most current level of supervisor microcode. This message is issued if a failure occurred that prevented the named command from creating the process, and is preceded by one of the following error messages, which describe the failure:

- 0026-652
- 0026-653
- 0026-679.

User Response: Correct the problem reported by the associated message and try the command again. If the problem persists, contact the IBM Support Center.

0026-695 Administrator intervention required. Installed supervisor and media mismatch detected. Microcode directory *media_directory* **should contain microcode file** *microcode_file***, which is the level currently installed in frame** *frame_number* **slot** *slot_number***.**

Explanation: The named command has found that the level of supervisor microcode installed in the named frame number *frame_number* and slot number *slot_number* has no counter part file installed in the named microcode media directory *media_directory*. This typically occurs when the level of microcode on the hardware is at a later level than the levels on the media. This is a mismatch condition since the process only installs microcode from the media directory unless specifically instructed to do otherwise through override flags using the **hmcmds** command.

User Response: The microcode file that was installed through overrides should be located and moved to the directory named by the *media directory* with the file_name named by *microcode file*.

0026-696 *argument* **is not a valid argument for the** *flag_name* **flag.**

Explanation: The named command was entered with an *argument* that is not valid for the specified flag.

User Response: Enter the command name followed by the help flag **-h** for help, and then enter the command correctly.

0026-700 Internal hmapi error, invalid message index *value***.**

Explanation: This message indicates an internal program problem in the Hardware Monitor API library.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-701 Error while sending message to hardmon at *host_name***:** *system_error_message* **(***error_number***).**

Explanation: A Hardware Monitor client command could not send a message to the Hardware Monitor daemon, at the specified host name, due to the reason supplied by the system error message. The error number returned by write() is also provided.

User Response: The most likely cause of this error is that the Hardware Monitor Daemon terminated while the client command was executing. Verify that the Hardware Monitor has been restarted by executing the command again. Another cause of this error may be a problem in your TCP/IP network. Use the system error message as a guide in determining if you have a network problem. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-702 Cannot send complete message to hardmon at *host_name***.**

Explanation: A Hardware Monitor client command could not send a complete message to the Hardware Monitor daemon at the specified host name.

User Response: A possible cause of this error is that the workstation on which the client command is running does not have sufficient communication buffers (mbufs). Verify that there are sufficient buffers. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-703 Cannot get IP address for host name *host_name***:** *reason***.**

Explanation: A Hardware Monitor client command could not obtain the IP address of the specified host name. This host name has been configured as the location of the Hardware Monitor daemon. The reason for the error is specified in the message. This reason is what was returned by the **gethostbyname()** subroutine.

User Response: Verify that the System Data Repository has been properly configured for the Hardware Monitor (Refer to **hardmon** in the *IBM Parallel System Support Programs for AIX: Command and Technical Reference*.) Also verify that whatever host name resolution scheme your site uses has been properly configured.

0026-704 Cannot create client socket: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-705 Cannot connect to *host_name***:** *system error message* **(***error_number***).**

Explanation: A Hardware Monitor client command could not connect to the specified host name, due to the reason supplied by the system error message. The error number returned by **connect()** is also provided.

User Response: A possible cause of this error may be a problem in your TCP/IP network. Use the system error message as a guide in determining if you have a network problem. Another possible cause is that the Hardware Monitor daemon may not be running. Verify that the Hardware Monitor daemon is running on the specified host.

0026-706 Cannot obtain service ticket for *server principal.instance*. Kerberos error code is *error_code*, Kerberos error message is *error_message*.

Explanation: A Hardware Monitor client command could not obtain a service ticket for the Hardware Monitor Daemon. The Kerberos error information is provided.

User Response: The most likely cause of this error is that the user has not run the **kinit** command (or other site procedure equivalent to **kinit**). Use the information provided in the Kerberos error message to correct the problem.

0026-707 Incorrect response to HM_CMD_START received from *host_name*.

Explanation: A Hardware Monitor client received an incorrect response to the command to start a session with the Hardware Monitor daemon on the specified host. This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-708 User cannot be authenticated on *host_name*. Kerberos error code is *error_code*, Kerberos error message is *error_message*.

Explanation: The user of a Hardware Monitor client command could not be authenticated by the Hardware Monitor Daemon. The Kerberos error information is provided.

User Response: Use the information provided in the Kerberos error message to correct the problem.

0026-709 Error while reading message from hardmon at *host_name*: *system error message* (*error_number*).

Explanation: A Hardware Monitor client command could not read a message from the Hardware Monitor daemon, at the specified host name, due to the reason supplied by the system error message. The error number returned by read() is also provided.

User Response: The most likely cause of this error is that the Hardware Monitor Daemon terminated while the client command was executing. Verify that the Hardware Monitor has been restarted by executing the command again. Another cause of this error may be a problem in your TCP/IP network. Use the system error message as a guide in determining if you have a network problem. If this error occurs repeatedly, save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-710 Cannot read complete message from hardmon at *host_name*.

Explanation: A Hardware Monitor client command could not read a complete message from the Hardware Monitor daemon at the specified host name.

User Response: A possible cause of this error is that the workstation on which the client command is running does not have sufficient communication buffers (mbufs). Verify that there are sufficient buffers. If this error occurs repeatedly save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-800 Unrecognized debug flag argument *flag_argument*.

Explanation: The argument to the **-d** flag was not recognized by the Hardware Monitor Daemon.

User Response: Either specify a valid debug flag argument or remove the debug flag. Refer to the **hardmon** man page for valid debug flag arguments.

0026-801 The *flag* flag requires an argument.

Explanation: The argument for the specified flag was not supplied to the Hardware Monitor Daemon.

User Response: Either specify a valid flag argument or remove the flag. Refer to the **hardmon** man page for valid flag arguments.

0026-802 Internal error, invalid message index ***value*****.**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-803 Cannot get host name: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-804 Cannot open log file *file_name system_error_message* **(***error_number***).**

Explanation: The Hardware Monitor Daemon could not open its log file due to the reason supplied by the system error message. The error number returned by open() is also provided.

User Response: Correct the problem indicated by the system error message. If the problem cannot be corrected gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-805 Cannot create stream for log file.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-806 Cannot set buffer mode on log file.

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-807 Cannot set SIGALRM: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-808 Cannot set signal mask: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-809 Cannot unblock signal mask: *system_error_message* **(***error number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-810 Select failed: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-811 Cannot block signal mask: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-812 Cannot establish SDR session.

Explanation: The Hardware Monitor Daemon could not establish a session with the System Data Repository (SDR). The SDR error message follows.

User Response: Correct the problem indicated by the SDR message.

0026-813 Cannot obtain objects from SDR class *class_name***.**

Explanation: The Hardware Monitor Daemon could not obtain objects from the SDR class named in the error message. The SDR error message follows.

User Response: Ensure that the specified class is properly configured.

0026-814 Cannot find the attribute *name* **in an object from the SDR class** *name***.**

Explanation: The Hardware Monitor Daemon could not find the specified attribute in an object from the SDR class named in the error message. The SDR error message follows.

User Response: Ensure that the specified class is properly configured.

0026-815 Unexpected data type for attribute *name* **in an object from the SDR class** *name***.**

Explanation: The Hardware Monitor Daemon found an unexpected data type for the specified attribute in an object from the SDR class named in the error message.

User Response: Ensure that the specified class is properly configured.

0026-816 Cannot open configuration file *file_name***:** *system_error_message* **(***error_number***).**

Explanation: The Hardware Monitor Daemon could not open the specified file due to the reason supplied by the system error message. The error number returned by fopen() is also provided. This file supplies configuration information to the Daemon.

User Response: Correct the problem indicated by the system error message. If the problem cannot be corrected, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-817 Missing card type in *file_name* **at line number** *number***.**

Explanation: The **hmthresholds** configuration file is missing the card type value at the specified line. This file should not normally be modified by the customer.

User Response: Repair the file per the comments found at the beginning of the file. If the file cannot be repaired, then restore the file from regular system backups or restore it from the SP installation media.

0026-818 Invalid card type in *file_name* at line number *number*: *card_type*.

Explanation: The **hmthresholds** configuration file has an invalid card type at the specified line. This file should not normally be modified by the customer.

User Response: Repair the file per the comments found at the beginning of the file. If the file cannot be repaired, then restore the file from regular system backups or restore it from the SP installation media.

0026-819 Incorrect number of boundary values in *file_name* at line number *number*.

Explanation: The **hmthresholds** configuration file has an incorrect number of boundary values at the specified line. This file should not normally be modified by the customer.

User Response: Repair the file per the comments found at the beginning of the file. If the file cannot be repaired, then restore the file from regular system backups or restore it from the SP installation media.

0026-820 Duplicate card type in *file_name* at line number *number*: *card_type*.

Explanation: The **hmthresholds** configuration file has a card type value at the specified line that is a duplicate of another card type in the file. This file should not normally be modified by the customer.

User Response: Repair the file per the comments found at the beginning of the file. If the file cannot be repaired, then restore the file from regular system backups or restore it from the SP installation media.

0026-821 Invalid boundary value in *file_name* at line number *number*: *card_type*.

Explanation: The **hmthresholds** configuration file has an invalid boundary value at the specified line. This file should not normally be modified by the customer.

User Response: Repair the file per the comments found at the beginning of the file. If the file cannot be repaired, then restore the file from regular system backups or restore it from the SP installation media.

0026-822 Not all card types have been specified in *file_name*.

Explanation: The **hmthresholds** configuration file does not contain configuration information for all supervisor card types. This file should not normally be modified by the customer.

User Response: Repair the file per the comments found at the beginning of the file. If the file cannot be repaired, then restore the file from regular system backups or restore it from the SP installation media.

0026-823 Missing field separator in tty input.

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-824 Frame ID of *frame_id* is greater than the maximum (*frame_id*) allowed.

Explanation: A frame ID has been configured in the SDR that is greater than what is permitted by the Hardware Monitor Daemon.

User Response: Verify that the SDR contains valid configuration data in the Frame object class.

0026-825 Could not allocate memory for data structure *name*.

Explanation: Memory could not be allocated for the named data structure. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-826 Cannot open tty *name*: *system_error_message* (*error_number*).

Explanation: The Hardware Monitor Daemon could not open a tty due to the reason supplied by the system error message. The error number returned by open() is also provided. The tty is used to communicate to a frame.

User Response: Correct the problem indicated by the system error message. If the problem cannot be corrected, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-827 Cannot do TXGETLD ioctl(): *system_error_message* (*error_number*).

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-828 Cannot do TXSETIHOG ioctl(): *system_error_message* (*error_number*).

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-829 Cannot do TCSANOW tcsetattr(): *system_error_name* (*error_number*).

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-830 Select mask is too small, file descriptor is *value*.

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-831 Missing tokens in *file_name* at line number *number*.

Explanation: The Hardware Monitor Access Control List file does not have 3 tokens at the specified line.

User Response: Correct the content of the ACL file per the man page for **hmacls**.

0026-832 Could not allocate memory for data structure *name*.

Explanation: Memory could not be allocated for the named data structure.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-833 Duplicate ACL in *file_name* at line number *number*.

Explanation: The Hardware Monitor Access Control List file contains a duplicate entry at the specified line.

User Response: Remove the duplicate entry.

0026-834 In *file_name* at line number *number*, the frame ID of *frame_id* is greater than the maximum (*frame_id*) allowed.

Explanation: A frame ID has been configured in the ACL file that is greater than what is permitted by the Hardware Monitor Daemon.

User Response: Correct the information at the specified line number in the ACL file.

0026-835 Invalid permissions specified in *file_name* **at line number** *number***.**

Explanation: The Hardware Monitor Access Control List file contains invalid permissions at the specified line.

User Response: Correct the content of the ACL file per the man page for **hmacls**.

0026-836 No ACLs found in *file_name***.**

Explanation: The Hardware Monitor Access Control List file contains no data.

User Response: Correct the content of the ACL file per the man page for **hmacls**.

0026-837 Cannot set interval timer: *system_error_message* **(***error_number***)**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-838 Cannot create server socket: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-839 Cannot set option on server socket: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-840 Cannot bind server address: *system_error_name* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-841 Cannot listen on server socket: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-842 Cannot do ioctl on server socket: *system_error_message* **(***error_number***).**

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-843 Cannot write SDR error message for error *SDR_API_error_number* **to log file.**

Explanation: This message indicates an internal program problem.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-844 Selected undefined file descriptor.

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-845 Garbled escape sequence on *tty_name* **(Frame** *number***).**

Explanation: Data received from the frame attached to the named tty contains invalid data. This error is an indication of either insufficient buffer space in the tty driver or noise on the line.

User Response: Check the error log for errors from the named tty indicating "ttyhog over-run". If such errors are found, gather information about the problem and follow local site procedures for reporting hardware and software problems. Otherwise, verify that the RS-232 connection to the named frame is secure. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-846 Packet buffer overflow on *tty_name* **(Frame** *number***).**

Explanation: Data received from the frame attached to the named tty contains invalid data. This error is an indication of either insufficient buffer space in the tty driver or noise on the line.

User Response: Check the error log for errors from the named tty indicating "ttyhog over-run". If such errors are found, gather information about the problem and follow local site procedures for reporting hardware and software problems. Otherwise, verify that the RS-232 connection to the named frame is secure. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-847 No data read from *tty_name* **(Frame** *number***).**

Explanation: This message indicates an internal program problem. The specified tty is closed; the named frame can no longer be monitored and controlled.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems. Restart the Hardware Monitor Daemon by issuing the command **hmadm quit** in order to once again monitor and control the frame.

0026-848 Error while reading tty *tty_name* **(Frame** *number***):** *system_error_message* **(***error_number***).**

Explanation: The Hardware Monitor Daemon could not read the named tty due to the reason supplied by the system error message. The error number returned by read() is also provided. The specified tty is closed; the named frame can no longer be monitored and controlled.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems. Restart the Hardware Monitor Daemon by issuing the command **hmadm quit** in order to once again monitor and control the frame.

0026-849 Missing data type/node id in packet from tty *name* **(Frame** *number***).**

Explanation: Data received from the frame attached to the named tty contains invalid data. This error is an indication of either insufficient buffer space in the tty driver or noise on the line.

User Response: Check the error log for errors from the named tty indicating "ttyhog over-run". If such errors are found, gather information about the problem and follow local site procedures for reporting hardware and software problems. Otherwise, verify that the RS-232 connection to the named frame is secure. If this error occurs repeatedly, gather information about the problem and follow local site

procedures for reporting hardware and software problems.

0026-850 Data length mismatch in packet from tty *name* (Frame *number*): calculated = *length* received = *length*.

Explanation: Data received from the frame attached to the named tty contains invalid data. This error is an indication of either insufficient buffer space in the tty driver or noise on the line.

User Response: Check the error log for errors from the named tty indicating "ttyhog over-run". If such errors are found, gather information about the problem and follow local site procedures for reporting hardware and software problems. Otherwise, verify that the RS-232 connection to the named frame is secure. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-851 Checksum mismatch in packet from tty *name* (Frame *number*): calculated = *checksum*, received = *checksum*.

Explanation: Data received from the frame attached to the named tty contains invalid data. This error is an indication of either insufficient buffer space in the tty driver or noise on the line.

User Response: Check the error log for errors from the named tty indicating "ttyhog over-run". If such errors are found, gather information about the problem and follow local site procedures for reporting hardware and software problems. Otherwise, verify that the RS-232 connection to the named frame is secure. If this error occurs repeatedly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-852 Missing data in packet from tty *name* (Frame *number*).

Explanation: Data received from the frame attached to the named tty has missing data. This error indicates a potential problem in the Frame Supervisor.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-853 Unrecognized card type (*card_type*) in packet from tty *name* (Frame *number*, Slot *number*).

Explanation: An unknown supervisor card type was discovered in data received from the named tty. This error indicates a potential problem in the Frame Supervisor or a hardware/software mismatch.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-854 Unrecognized response type (*response_type*) in packet from tty *name* (Frame *number*).

Explanation: An unknown response type was discovered in data received from the named tty. This error indicates a potential problem in the Frame Supervisor.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-855 Received "data dump" response from tty *name* (Frame *number*).

Explanation: An unexpected response was received from the named tty. This error indicates a potential problem in the Frame Supervisor.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-856 Cannot accept client connection: *system_error_message* (*error_number*).

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-857 Error in read of client message: *system_error_message* (*error_number*).

Explanation: The Hardware Monitor Daemon could not read a message from a client due to the reason supplied by the system error message. The error number returned by read() is also provided. The connection to the client is closed.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-858 Cannot read client command header from *client_IP_address*/*client_port_number*.

Explanation: The Hardware Monitor Daemon could not read the command header in a message from the named client. The most likely cause of this error is that a non-hardware monitor program connected to the Hardware Monitor Daemon. Such a program may have connected to the Daemon if the Daemon's server port number is being used by non-hardware monitor applications. This error may also be an indication of an unauthorized attempt to gain access to the Monitor and Control Node. Finally, this error may indicate a program error in a hardware monitor command. The connection to the client is closed.

User Response: Verify that the Hardware Monitor Daemon's server port number is not being used by other applications. If this error occurs frequently or it occurs at about the same time hardware monitor commands are executed, successfully or not, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-859 Client command from *client_IP_address*/*client_port_number* contains invalid length in header.

Explanation: The Hardware Monitor Daemon found an invalid length in the command header of a message from the named client. The most likely cause of this error is that a non-hardware monitor program connected to the Hardware Monitor Daemon. Such a program may have connected to the Daemon if the Daemon's server port number is being used by non-hardware monitor applications. This error may also be an indication of an unauthorized attempt to gain access to the Monitor and Control Node. Finally, this error may indicate a program error in a hardware monitor command. The connection to the client is closed.

User Response: Verify that the Hardware Monitor Daemon's server port number is not being used by other applications. If this error occurs frequently or it occurs at about the same time hardware monitor commands are executed, successfully or not, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-860 Client command received from *client_IP_address*/*client port number* is out of sequence.

Explanation: The Hardware Monitor Daemon received a command from the named client in the wrong order. This error may be an indication of an unauthorized attempt to gain access to the Monitor and Control Node. Otherwise, this error may indicate a program error in a hardware monitor command. The connection to the client is closed.

User Response: If this error occurs frequently or it occurs at about the same time hardware monitor commands are executed, successfully or not, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-861 Unrecognized client command received from *client_user_name* **at** *client_IP_address*/*client_port_number***.**

Explanation: The Hardware Monitor Daemon received an unrecognized command from the named client. This error may be an indication of an unauthorized attempt to gain access to the Monitor and Control Node. Otherwise, this error may indicate a program error in a hardware monitor command. The connection to the client is closed.

User Response: If this error occurs frequently or it occurs at about the same time hardware monitor commands are executed, successfully or not, then gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-862 Error on write of client message: *system_error_message* **(***error_number***).**

Explanation: The Hardware Monitor Daemon could not write a message to a client due to the reason supplied by the system error message. The error number returned by write() is also provided. The connection to the client is closed.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-863 Cannot send message to client *client_user_name* **at** *client_IP_address*/*client_port_number***.**

Explanation: The Hardware Monitor Daemon could not write a message to the named client. The connection to the client is closed.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-864 Invalid arguments in client command *client_command* **from** *client_user_name*/*client_port_number***.**

Explanation: The Hardware Monitor Daemon received the specified command containing invalid arguments from the named client. This error may be an indication of an unauthorized attempt to gain access to the Monitor and Control Node. Otherwise, this error may indicate a program error in a hardware monitor command. The connection to the client is closed.

User Response: If this error occurs frequently or it occurs at about the same time hardware monitor commands are executed, successfully or not, then gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-865 Could not schedule command *client_command* **to Frame** *number***.**

Explanation: The Hardware Monitor Daemon could not schedule the named command to be sent to the specified frame. This error occurs if a command was received by the Daemon before it received the response to the first poll to the frame. The most likely cause of this error is that the tty device for the RS-232 link connected to the specified frame could not be opened or the RS-232 connection is bad. A less likely cause of this error is that a Hardware Monitor command, e.g. **spmon** or **hmcmds**, is executed immediately after the Hardware Monitor Daemon is started.

User Response: If error message 0026-826 is found, follow the action for that error. Otherwise, verify that the RS-232 link is properly connected.

0026-866 Error while writing to tty *name***. (Frame** *number***):** *system_error_message* **(***error_number***).**

Explanation: The Hardware Monitor Daemon could not write to the named tty due to the reason supplied by the system error message. The error number returned by write() is also provided. The specified tty is closed; the named frame can no longer be monitored and controlled.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems. Restart the Hardware Monitor Daemon by issuing the command **hmadm quit** in order to once again monitor and control the frame.

0026-867 Short count on write to *tty_name* **(Frame** *number***).**

Explanation: This message indicates an internal program problem. The specified tty is closed; the named frame can no longer be monitored and controlled.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems. Restart the Hardware Monitor Daemon by issuing the command **hmadm quit** in order to once again monitor and control the frame.

0026-868 Unrecognized debug flag *flag* **specified in command** *client_command***.**

Explanation: The Hardware Monitor Daemon detected an unrecognized debug flag in the specified client command.

User Response: Use only documented debug flags when executing the **hmadm** command.

0026-869 Internal error - invalid ttycb list.

Explanation: This message indicates an internal program problem. A 'core' file should be generated in **/var/adm/SPlogs/spmon/hardmon/core**.

User Response: Save the core file and the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-870 Error in ioctl to tty *name* **(Frame** *number***):** *system_error_message* **(***error_number***).**

Explanation: The Hardware Monitor Daemon could not issue an ioctl to the named tty due to the reason supplied by the system error message. The error number returned by ioctl() is also provided.

User Response: Save the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-871 Unexpected supervisor type (*supervisor_type***) found in slot** *number* **of frame** *number***.**

Explanation: The Hardware Monitor Daemon attempted to send a command to a supervisor type that is not expected in the specified slot number, i.e., a switch in an odd slot in a switch-only frame or a processing node in slot 17. The implication is that the I2C bus has not been properly connected to the nodes in the specified frame.

User Response: Verify that the I2C bus has been properly connected in the specified frame. If the I2C bus is properly connected, then gather information about the problem and follow local site procedures for reporting hardware and software problems.

0026-872 Invalid name in *file_name* **at line number** *line_number***.**

Explanation: The Hardware Monitor Access Control List file has a format error at the specified line; the user name is not of the form *name.instance*.

User Response: Correct the content of the ACL file per the documentation for **/etc/hmacls**.

0026-873 Frame ID mismatch: hardware = *hardware frame ID***, SDR =** *configured frame ID***.**

Explanation: The frame ID is maintained in twin-tail capable frame supervisor cards. The Hardware Monitor daemon has detected a mismatch between the frame ID in the supervisor card and the frame ID as found in the SDR.

User Response: If the frame is connected to both the control workstation and to a backup control workstation, verify that each RS-232 cable is connected to ports on the workstations that are assigned the frame's /dev/ttyN name as configured in the frame's SDR Frame Object. If the RS-232 connections are correct or the frame is connected to only one workstation, then execute the hmcmds command to set the frame ID in the frame supervisor card. Refer to the documentation for the Highly Available Control Workstation (HACWS).

Until this condition is corrected, any commands to the frame or to the processors and switch within the frame, are ignored.

0026-874 Unable to determine whether the control workstation is active, inactive, or non-HACWS.

Explanation: This message indicates an internal program problem. Generate a 'core' file in **/var/adm/SPlogs/spmon/hardmon/core**. In addition, this message may be issued if the node number was not set in the Object Data Manager (ODM) after restoring the control workstation from a mksysb.

User Response: Save the core file and the error message, gather information about the problem and follow local site procedures for reporting hardware and software problems. If you restored the control workstation from a mksysb and you did not run **install_cw**, issue the command now to correct the control workstation configuration.

0026-875 The Hardware Monitor can only execute on an active, or non-HACWS control workstation in non-diagnostic mode.

Explanation: The control workstation is either in primary inactive state or backup inactive state. The Hardware Monitor was started in non-diagnostic mode or "monitor" mode. The Hardware Monitor requires an active state, or non-HACWS state to run to run in monitor mode.

User Response: Configure the control workstation to be in either primary active state, backup active state, or non-HACWS state. Or, restart the Hardware Monitor on a control workstation that is already configured in an active state or non-HACWS state.

Chapter 36. 0027 - User Administration Messages

0027-111 User *user name* **already exists.**

Explanation: This name is already associated with another user.

User Response: Choose another user name.

0027-112 User ID *user id* **already exists.**

Explanation: This user id is already assigned to another user.

User Response: Choose another user id.

0027-113 Permission denied; you must be the root user to execute.

Explanation: This command requires **root** authority.

User Response: Switch to the **root** user and re-execute the command.

0027-114 Primary group is undefined: *group number or name*

Explanation: An undefined login group was specified for the user.

User Response: If the specified group or default group in **/usr/lpp/ssp/admin/spmkuser.default** does not exist in **/etc/group**, add it there.

0027-115 A specified group is undefined: *group number or name*

Explanation: An undefined secondary group was specified for the user.

User Response: If the specified group or default groups listed in **/usr/lpp/ssp/admin/spmkuser.default** do not exist in **/etc/group**, add them there.

0027-116 User *user name* **does not exist.**

Explanation: Requested target user is not defined. No action could be taken.

0027-117 Action *action type* **cancelled.**

Explanation: Transaction has successfully been cancelled at the user's request.

0027-118 File *file name* **in use.**

Explanation: The specified file has been locked by another program.

User Response: If that program has completed and a lock file (**file name.lock**) exists, remove it.

0027-119 Invalid characters specified in *fieldname* **parameter.**

Explanation: For the given parameter, the specified value is badly formed.

User Response: Check the syntax information on acceptable values for this parameter. If no value was specified, check the default value in **/usr/lpp/ssp/admin/spmkuser.default.**

0027-120 Unknown attribute specified: *attribute name*

Explanation: An unacceptable attribute was given for the command

User Response: Check the syntax of the command for acceptable parameters and re-execute.

0027-121 Unsupported attribute specified: *attribute name***.**

Explanation: Some parameters of the AIX user administration commands are not supported by the SP versions of these commands.

User Response: Check the syntax of the command you wish to execute for the acceptable parameters and re-execute command.

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0027-122 Warning: User directory *path* is in an unexported filesystem on *hostname*.

Explanation: The host, where the user's home directory has been created, does not contain an entry to export the parent directory to other machines.

User Response: Add an entry to export that directory in **/etc/exports** and execute **exportfs -a**.

0027-123 Unsupported option specified: *option*

Explanation: The specified option flag is not supported by this command. Some option flags of the AIX user administration commands are not supported by the SP versions of these commands.

User Response: Check the syntax of the command for the acceptable option flags and re-execute the command.

0027-124 File *file name* does not exist.

Explanation: The specified file does not exist.

User Response: Issue the command **splstdata -e** to check the value of the PASSWD_FILE attribute of the SP object. The **site_environment** file no longer exists.

0027-125 Cannot create user home directory. Target host specified for user home directory unknown or not responding.

Explanation: A connection to the target host specified could not be made at this time.

User Response: Check the target machine and network connections.

0027-126 Cannot create user home directory. Target host specified for user home directory denied access. Check permissions at target.

Explanation: The **.rhosts** file at the target machine requires permissions for **root** from the machine executing the command.

User Response: Check that permissions have been set correctly.

0027-127 Cannot remove user home directory. Target host specified for user home directory unknown or not responding.

Explanation: The target host specified does not exist or its name can not be resolved at this time.

User Response: Check the name and your host name resolution configuration.

0027-128 Cannot remove user home directory. Target host specified for user home directory denied access. Check permissions at target.

Explanation: The **.rhosts** file at the target machine requires permissions for **root** from the machine executing the command.

User Response: If the permissions have not been set correctly, set them correctly.

0027-153 The user administration function is already in use.

Explanation: Another of the SP user administration commands is currently using some of the common resources required.

User Response: Wait until the command has completed. If this message appears immediately following an abnormal termination of these previously mentioned commands, remove the **/usr/lpp/ssp/config/admin/.userlock** file.

0027-154 Unknown attribute *attribute name* specified in the user defaults file *file name*.

Explanation: An unknown or unsupported attribute has been specified in the **/usr/lpp/ssp/admin/spmkuser.default** file.

User Response: Check the attributes table in the chapter on managing user accounts in the *IBM Parallel System Support Programs for AIX: Administration Guide* for possible attributes as well as initial defaults. Modify the **spmkuser.defaults** file appropriately.

0027-155 File permissions not correctly set: *file name*

Explanation: The specified file requires a level of protection that does not compromise security. The file currently exists but the permissions are not set correctly.

User Response: Save any existing data to a safe place and remove this file. A new one with the appropriate permissions will be created.

Chapter 37. 0028 - Switch Support Messages

0028-001 Primary node not defined - use "Eprimary".

Explanation: A primary node must be assigned before running **Estart**.

User Response: See the **Eprimary** command in the *IBM Parallel System Support Programs for AIX: Command and Technical Reference* for information on how to assign a primary node.

0028-002 Cannot ping the primary node: *node***.**

Explanation: The primary node cannot be pinged.

User Response: See Chapter 8, “Diagnosing Switch Problems” on page 33 for information on verifying the primary node.

0028-003 Switch initialization failed on *hostname* **- i_stub call error.**

Explanation: Internal error.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0028-004 Switch initialization failed on *hostname* **- insufficient memory.**

Explanation: Internal error.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0028-005 Switch initialization failed on *hostname* **- daemon busy. Retry command.**

Explanation: Fault service daemon is busy processing a request.

User Response: Retry command.

0028-006 Switch initialization failed on *hostname* **- i_stub problem.**

Explanation: Internal error.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

0028-007 Switch initialization *limit* **second time limit exceeded.**

Explanation: **Estart** processing has exceeded allowable time limit.

User Response: See Chapter 8, “Diagnosing Switch Problems” on page 33.

0028-008 Cannot access system data repository.

Explanation: Cannot access system data repository.

User Response: See Chapter 8, “Diagnosing Switch Problems” on page 33 for more information.

0028-009 You have specified an invalid number of arguments.

Explanation: You have specified an invalid number of arguments.

User Response: Check syntax and enter the command again.

0028-010 The node identifier for a primary/backup node could not be found in the repository.

Explanation: The node you specified as primary is not valid.

User Response: Check the name of node that you want to be the primary.

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0028-011 You have specified an invalid starting frame number.

Explanation: The starting frame number you specified is not valid.

User Response: Check that the frame number you are specifying is in your configuration.

0028-012 You have specified an invalid starting slot number.

Explanation: The starting slot you specified is out of range (1 to 16).

User Response: Specify a starting slot number that is in range.

0028-013 You have specified an invalid node count.

Explanation: The number of nodes you specified is out of range.

User Response: Specify a number greater then zero and less then the maximum nodes.

0028-014 Start node plus node count must not exceed the maximum number of nodes.

Explanation: The start node plus the node count must not exceed the maximum number of nodes.

User Response: Specify a number lower than the maximum nodes.

0028-015 You have specified an invalid protocol.

Explanation: You have specified an invalid protocol.

User Response: Check the syntax of the command.

0028-016 Node to be changed could not be found in repository.

Explanation: The node you specified is not valid.

User Response: Check the name of node for which you want to change protocol.

0028-017 Unable to store topology file in SDR.

Explanation: SDRCreateFile failed storing topology file.

User Response: Check that SDR is operational.

0028-018 Unable to modify Switch_partition object in SDR.

Explanation: SDRChangeAttrValues failed for **Switch_partition** object. (Switch partitions are not supported.)

User Response: Check that SDR is operational.

0028-019 Unable to query Switch_partition object in SDR.

Explanation: SDRGetObjects failed for **Switch_partition** object. (Switch partitions are not supported.)

User Response: Check that SDR is operational.

0028-020 Unable to retrieve the topology file out of SDR.

Explanation: Unable to retrieve the topology file out of SDR.

User Response: Check that SDR is operational.

0028-021 Invalid topology_file_name.

Explanation: Specified topology file does not exist.

User Response: Check that *topology_file_name* exists.

0028-022 Unable to create Switch_partition object.

Explanation: SDRCreateObjects failed for **Switch_partition** object.

User Response: Check that SDR is operational.

0028-023 fault_service_Worm_RTG daemon not running on primary node.

Explanation: fault_service_Worm_RTG daemon not running on primary node.

User Response: See Chapter 8, “Diagnosing Switch Problems” on page 33 for information on verifying primary nodes.

0028-024 No reliable hostname defined for this node in SDR.

Explanation: A reliable hostname is not defined for this node in SDR Node Object.

User Response: Define a reliable hostname for this node.

0028-025 A primary or backup value in the Switch_partition is null or invalid.

Explanation: One of the primary or backup values for the switch primary node is not valid and is probably null.

User Response: Set the primary or backup value with the **Eprimary** command.

0028-026 Backup node not valid for HiPS switch.

Explanation: The user specified a backup node for an High Performance Switch that is not valid.

User Response: Issue the **Eprimary** command with only a primary node specified.

0028-027 Cannot ping the primary backup node, cannot Estart: *node_name***.**

Explanation: The oncoming primary backup node specified for the SP switch is not available.

User Response: Check the oncoming primary backup node and select another node if necessary.

0028-028 Fault service worm not up on oncoming primary node, cannot Estart: *node_name***.**

Explanation: The “worm” daemon on the oncoming primary node is not available.

User Response: Run **rc.switch** again on the oncoming primary node or use the **Eprimary** command to choose another node.

0028-029 Fault service worm not up on oncoming primary backup node, cannot Estart: *node_name***.**

Explanation: The “worm” daemon on the oncoming primary backup node is not available.

User Response: Run **rc.switch** again on the oncoming primary backup node or use the **Eprimary** command to choose another node.

0028-030 css0 IP driver failed to unload.

Explanation: The **css0** IP driver failed to unload.

User Response: Issue the command again. If the problem persists, contact IBM Support.

0028-031 css0 unconfiguration method failed.

Explanation: The **css0** unconfiguration method failed.

User Response: Issue the command again. If the problem persists, contact IBM Support.

0028-032 css0 configuration method failed.

Explanation: The **css0** configuration method failed.

User Response: Issue the command again. If the problem persists, contact IBM Support.

0028-033 rc.switch failed. See /var/adm/SPlogs/css/rc.switch.log for more information.

Explanation: The **rc.switch** failed. The “worm” daemon is not running.

User Response: Review **/var/adm/SPlogs/css/rc.switch.log** for more information.

0028-034 Unable to delete existing topology file from SDR. Return code=*SDRDeleteFile_return_code* **for more information.**

Explanation: Bad return code from **SDRDeleteFile**.

User Response: Check the meaning of the SDR return code and take the appropriate action.

0028-035 Oncoming primary node is fenced, cannot Estart: *node_name***.**

Explanation: The oncoming primary node that **Estart** uses is fenced.

User Response: Check the node. Use the **Eprimary** command to select another oncoming primary node if necessary.

0028-036 Oncoming primary backup node is fenced, cannot Estart: *node_name***.**

Explanation: Oncoming primary backup node that **Estart** uses is fenced.

User Response: Check the node. Use the **Eprimary** command to select another oncoming primary backup node if necessary.

0028-037 Invalid switch partition.

Explanation: The SP_NAME shell variable is not set to a valid system partition name.

User Response: Set the SP_NAME shell variable issue the command again.

0028-038 Warning: Oncoming primary node is fenced.

Explanation: Oncoming primary node that **Estart** uses is fenced.

User Response: Make sure that the oncoming primary node is not fenced before **Estart** uses it.

0028-039 Warning: Fault service worm not up on oncoming primary node.

Explanation: The “worm” daemon on the oncoming primary node is not available.

User Response: Make sure that the oncoming primary node is available before **Estart** uses it.

0028-040 Warning: Oncoming primary backup node is fenced.

Explanation: The oncoming primary backup node is fenced.

User Response: Make sure that the oncoming primary backup node is not fenced before **Estart** uses it.

0028-041 Oncoming primary and oncoming primary backup cannot be the same node.

Explanation: The nodes specified on the command line for oncoming primary and oncoming backup primary are the same. The oncoming primary and oncoming primary backup cannot be the same node.

User Response: Select either another primary node or primary backup node.

0028-042 Cannot rsh to change personality on node *node_name***.**

Explanation: Cannot use the **rsh** command to change the personality of a node to a secondary because it is not reachable.

User Response: **Estart** continues, however, the node is not reachable.

0028-043 Primary backup node busy. Cannot execute Estart. Retry command.

Explanation: The daemon would not accept the change personality command because the primary backup node is busy. Either a primary or backup primary node takeover is occurring.

User Response: **Estart** fails. Issue **Estart** again.

0028-044 Unable to find suitable primary backup node. No primary backup node running.

Explanation: The oncoming primary backup node in the SDR was not available. Either the ethernet is down, the daemon is not running, or the primary backup node is fenced. The switch attempted to choose another node, but was not able to find an available node. The switch is running on the primary node.

User Response: **Estart** continues. Make sure that you intend to run only on the one node.

0028-045 Expected.top file contains nodes outside the current partition, cannot start switch.

Explanation: The **expected.top** file resides in **/etc/SP** on the primary node.

User Response: **Estart** continues. Make sure that you intend to run on only the one node.

0028-046 Cannot ping the primary backup node: ***primary_backup_node*****.**

Explanation: The primary backup node cannot be pinged.

User Response: See Chapter 8, “Diagnosing Switch Problems” on page 33 for information on verifying the primary node.

0028-047 Warning: Fault service worm not up on oncoming primary backup node.

Explanation: The “worm” daemon on the oncoming primary backup node is not available.

User Response: Make sure that the “worm” daemon is available before **Estart** uses it.

0028-048 Primary node busy. Cannot execute Estart. Retry command.

Explanation: The daemon would not accept the change personality command because the primary node is busy. Either a primary or backup primary node takeover is occurring.

User Response: **Estart** fails. Issue **Estart** again.

0028-049 Command not valid on switchless system.

Explanation: This command is used to manage the switch and is, therefore, only valid on a system with a switch installed.

User Response: None.

0028-050 Invalid combination of command arguments.

Explanation: You have specified an invalid combination of command arguments.

User Response: Check syntax and enter the command again.

0028-051 You have specified an invalid switch number.

Explanation: The switch number that you have specified is out of range.

User Response: Correct the switch number and enter the command again.

0028-052 You have specified an invalid switch clock input.

Explanation: The switch number that you have specified is out of range (0 to 3).

User Response: Correct the switch clock input value and enter the command again.

0028-053 Issuing the command ***command*** **gave a return code of** ***x*****.**

Explanation: The **Eclock** command failure was due to the failure of the *command* used by **Eclock**.

User Response: Check the return code of the failing command and follow those actions; when complete, retry the **Eclock** command.

0028-054 The switch number ***x*** **is currently not powered on.**

Explanation: The switch *x* is not powered on, so the requested action was not completed.

User Response: Power on the switch and issue the command again.

0028-055 Topology file contains an incorrect number of switch clock input statements *x*.

Explanation: The topology file you specified does not match the current SP2 configuration.

User Response: Select the correct topology file and issue the command again.

0028-056 The switch number *x* clock input has changed to *m*, updating the System Data Repository (SDR).

Explanation: The Error Logging daemon has detected a change in the clock input value for switch *x*, and has invoked a state change handler to reflect the new value in the SDR.

User Response: None.

0028-057 The switch number *x* has been powered-on. Setting the clock input value to *m*.

Explanation: The Error Logging daemon has detected switch *x* being powered on, and has invoked a state change handler that sets the correct multiplexor (mux) value.

User Response: None.

0028-058 You have specified an invalid switch number.

Explanation: The switch number you specified is not valid.

User Response: Make sure that the switch number you specify is in your configuration.

0028-059 Equiesce command is not valid for the High Performance Switch

Explanation: Attempted to execute Equiesce command on a system with a High Performance Switch. This is not supported.

User Response: None.

0028-060 Emonitor must be run from the control workstation.

Explanation: Emonitor cannot be run from a node. Run it from the control workstation.

User Response: None.

0028-062 The switch number ss is currently not receiving a clocking signal on the cable attached to ff.

Explanation: During Eclock processing it was discovered that one of the cables carrying the clocking signal is unplugged, missing, and/or damaged.

User Response: Check the cable denoted in the message.

0028-070 Unable to Estart, the clock source for one or more switch boards has changed. Eclock must be run to re-establish the clock distribution of the switch clock network.

Explanation: The switch clock source has been changed to a value that may differ from what was set with the last Eclock. This can cause a problem in a subsequent Estart if an Eclock is not run prior to Estart.

User Response: Run the Eclock command then re-issue Estart.

0028-071 Switch initialization failed. The fault_service_Worm_RTG_SP daemon exited due to errors. See /var/adm/SPlogs/css/flt file for more information.

Explanation: Switch initialization failed. The fault_service_Worm_RTG_SP daemon has encountered errors and has exited.

User Response: Review /var/adm/SPlogs/css/flt file. Then, consult "Diagnosing Switch Problems" in the Diagnosis and Messages Guide.

0028-072 Switch initialization failed. The fault_service_Worm_RTG daemon exited due to errors. See /var/adm/SPlogs/css/fs_daemon_print.file and /var/adm/SPlogs/css/daemon.stdout for more information.

Explanation: Switch initialization failed. The "worm" daemon has encountered errors and has exited.

User Response: Review /var/adm/SPlogs/css/fs_daemon_print.file and

/var/adm/SPlogs/css/daemon.stdout files. Then, consult "Diagnosing Switch Problems" in the Diagnosis and Messages Guide.

0028-073 Switch initialization ss second time limit exceeded. The fault_service_Worm_RTG_SP daemon is continuing to attempt to initialize the switch. See /var/adm/SPlogs/css/flt for more information.

Explanation: Estart processing has exceeded allowable time limit.

User Response: See "Diagnosing Switch Problems" in the Diagnosis and Messages Guide.

0028-074 Switch initialization ss second time limit exceeded. The fault_service_Worm_RTG daemon is continuing to attempt to initialize the switch. See /var/adm/SPlogs/css/fs_daemon_print.file and /var/adm/SPlogs/css/daemon.stdout for more information.

Explanation: Estart processing has exceeded allowable time limit.

User Response: See the section on Diagnosing Switch Problems in this book.

0028-075 Could not distribute the topology file to these node(s) They may not come up on the switch network.

Explanation: Estart attempted to distribute the switch topology file to all nodes with css adapters and host_responds=1 and failed on the listed nodes. Probable causes are insufficient Kerberos authentication or lack of dasd space. These nodes may not have the proper topology file and therefore may not initialize on the switch.

User Response: Determine why the nodes could not receive the switch topology file then retry.

0028-100 Usage: *input_file output_file***.**

Explanation: User did not specify all required parameters.

User Response: Specify input file name and output file name and enter the command again.

0028-101 *topology_filename* **does NOT exist, re-specify file name.**

Explanation: The specified input file does not exist.

User Response: Verify the correct input file and enter the command again.

0028-102 *filename* **is NOT readable, re-specify file name.**

Explanation: Specified input file is not readable.

User Response: Specify the input file name again.

0028-103 Error on retrieving Switch Object from SDR.

Explanation: The command **SDRGetObjects Switch** failed.

User Response: Check to see if the SDR daemon, **/usr/lpp/ssp/bin/sdrd**, is running and if the object class “Switch” is defined.

0028-104 Error on retrieving Node Object from SDR.

Explanation: The command **SRGetObjects Node** failed.

User Response: Check to see if the SDR daemon, **/usr/lpp/ssp/bin/sdrd**, is running and if the object class “Node” is defined.

0028-105 Error on retrieving *topology_input_file* **from SDR.**

Explanation: Retrieval of the *topology_input_file* failed.

User Response: Check to see if the SDR daemon **/usr/lpp/ssp/bin/sdrd** is running and if the specified topology input file is in the SDR.

0028-106 Error on saving *topology_output_file* **to SDR.**

Explanation: Saving of the *topology_output_file* failed.

User Response: Check to see if the SDR daemon **/usr/lpp/ssp/bin/sdrd** is running and check if the user has write permission to SDR.

0028-107 Error on writing *topology_output_file*, **check write permission.**

Explanation: Writing of the *topology_output_file* failed.

User Response: Check to see if the SDR daemon **/usr/lpp/ssp/bin/sdrd** is running and check if the user has write permission on specified directory.

0028-108 Error return from Etopology.

Explanation: Etopology failed to run.

User Response: Check to see if the correct file name was specified.

0028-109 Output file was not saved, specify output file name and run again.

Explanation: The output file name did not get specified.

User Response: Specify the output file name.

0028-110 Could not rsh to primary node due to authentication failure.

Explanation: Kerberos authentication services do not allow a **rsh** to the primary node.

User Response: Check the Kerberos authentication setup.

0028-111 Could not rsh to primary backup node due to authentication failure.

Explanation: Kerberos authentication services do not allow a **rsh** to the primary backup node.

User Response: Check the Kerberos authentication setup.

0028-131 Specify a number of days from 1 to 40. Type *Eduration* **-h for usage.**

Explanation: The number of days specified is not valid.

User Response: Correct the command line.

0028-132 Specify the number of hours from 1-23. Type *Eduration* **-h for usage.**

Explanation: The number of hours specified is not valid.

User Response: Correct the command line.

0028-133 Specify the number of minutes from 1-59. Type *Eduration* **-h for usage.**

Explanation: The number of minutes specified is not valid.

User Response: Correct the command line.

0028-134 Argument *Eduration* **not valid.**

Explanation: The flag is not valid.

User Response: Correct the command line.

0028-135 Run Phase Duration must not be greater than 40 days.

Explanation: The amount of time specified is greater than 40 days.

User Response: Correct the time specified to an amount that is less than or equal to 40 days.

0028-136 IP address *node_specifier* **was not found in the SDR.**

Explanation: Unable to find the IP address in the **Adapter** class of the SDR.

User Response: Correct the problem with the SDR.

0028-137 Unable to find the Node class for Node number *node_number* **in the SDR.**

Explanation: Unable to find information for this node.

User Response: Correct the problem with the SDR.

0028-138 Unable to find the Node class for frame *frame_number* **and slot** *slot_number***.**

Explanation: Unable to find information for this frame and slot number.

User Response: Correct the problem with the SDR.

0028-139 Incorrectly formed node specifier or invalid option: *node_specifier***.**

Explanation: Node specifier did not match one of the accepted forms.

User Response: Correct the problem with the SDR.

0028-140 Unable to retrieve Run Phase Duration from the SDR.

Explanation: Unable to find the **run_phase_duration** in the SDR.

User Response: Correct the problem with the SDR.

0028-141 No nodes specified. Type Eunfence -h for usage.

Explanation: No nodes specified for this command.

User Response: Issue the command again. Make sure to specify nodes.

0028-142 Topology file specified not valid for current partition.

Explanation: Topology file does not match current partition.

User Response: Check to see which partition the user is running in and compare the contents of the topology file.

0028-143 Unable to retrieve the partition code level from the SDR.

Explanation: Attempted to read *code_level* from **Syspar** class in the SDR that the attempt failed.

User Response: Check to see if the SDR daemon is running and that the **Syspar** class has not been corrupted.

0028-144 Not supported for SP Switch Partitions.

Explanation: Discovered that this partition is a PSSP 1.2 partition that does not support node isolation.

User Response: Do not use node isolation in this partition.

0028-145 Unable to retrieve information on Fenced nodes from the SDR.

Explanation: Attempted to list the **switch_responds** class in the SDR and received a failure.

User Response: Check to see that the SDR daemon is running and the SDR has not been corrupted.

0028-146 IP address *node_specifier* **designates the Primary Node. The Primary node cannot be fenced or unfenced.**

Explanation: The IP address given belongs to the primary, which cannot be fenced or unfenced, because the primary is the node that does the fencing and unfencing.

User Response: Do not specify the primary node.

0028-147 Node number *node_number* **designates the Primary Node. The Primary node cannot be fenced or unfenced.**

Explanation: The node number given belongs to the primary, which cannot be fenced or unfenced, because the primary is the node that does the fencing and unfencing.

User Response: Do not specify the primary node.

0028-148 Frame, Slot *frame_number,slot_number* **designates the Primary Node. The Primary node cannot be fenced or unfenced.**

Explanation: The frame number and slot number given belongs to the primary, which cannot be fenced or unfenced, because the

primary is the node that does the fencing and unfencing.

User Response: Do not specify the primary node.

0028-149 Node name *host_name* **designates the Primary Node. The Primary node cannot be fenced or unfenced.**

Explanation: The node name given belongs to the primary, which cannot be fenced or unfenced, because the primary is the node that does the fencing and unfencing.

User Response: Do not specify the primary node.

0028-150 IP address *IP_address* **for Node** *host_name* **not found in SDR. Primary node cannot be fenced or unfenced.**

Explanation: Unable to find the IP address, which is derived from the host name using the **host** command, in the **Adapter** class.

User Response: Specify a correct hostname or fix the IP address.

0028-151 Unable to retrieve oncoming_primary_backup_name from Switch_partition object in SDR.

Explanation: Attempted to read the *oncoming_primary_backup_name* from the **Switch_partition** class in the SDR, but the attempt failed.

User Response: Check to see if the SDR is operational.

0028-152 Unable to retrieve the oncoming primary backup node_number from Node object in SDR.

Explanation: Attempted to read the *oncoming_primary_backup_name* from the **Switch_partition** class in the SDR, but the attempt failed.

User Response: Check to see if the SDR is operational.

0028-153 Frame, Slot *frame_and_slot_number* **designates a node in a** *partition_string* **partition. Fencing and Unfencing are not supported for** *partition_string* **Partitions.**

Explanation: The node indicated by the frame and slot number is in a PSSP 1.2 partition, which does not support node isolation.

User Response: Specify nodes from a supported partition.

0028-154 Node name *hostname* **designates a node in a** *partition_string* **partition. Fencing and Unfencing are not supported for** *partition_string* **Partitions.**

Explanation: The node indicated by the hostname is in a PSSP 1.2 partition, which does not support node isolation.

User Response: Specify nodes from a supported partition.

0028-155 Unable to retrieve System Partition data from the SDR.

Explanation: The attempt to read the **Syspar_map** class in the SDR to retrieve the System Partition address was not successful.

User Response: This is either an incorrect node number or the SDR is in an inconsistent or unusable state. Specify a correct node number or investigate the problem with the SDR.

0028-156 Unable to retrieve the reliable hostname for node number *node_number* **from the SDR.**

Explanation: The attempt to retrieve the reliable hostname for the indicated node number was not successful.

User Response: Specify a correct node number or investigate the problem with the SDR.

0028-157 Remote execution of the request to *Primary_name* failed.

Explanation: A **rsh** to the primary node failed.

User Response: Check the authentication and connectivity to the primary node.

0028-158 No nodes to unfence.

Explanation: After validating arguments, could not find nodes to to unfence.

User Response: Specify valid nodes.

0028-159 Unable to find the System Partition containing the node specified by *Entered_node_specification*.

Explanation: The specified node was not found in the **Syspar_map** class.

User Response: Specify a valid node.

0028-160 Unable to find the reliable hostname for the node specified by *Entered_node_specification*.

Explanation: Unable to retrieve the *reliable_hostname* for the node specified.

User Response: Specify a valid node.

0028-161 Unable to find the switch responds entry for the node specified by *Entered_node_specification*.

Explanation: Unable to find the switch responds entry for the node specified.

User Response: Specify a valid node.

0028-162 Node specified by *Entered_node_specification* is not currently fenced.

Explanation: The specified node is not fenced.

User Response: Specify a fenced node.

0028-163 Node specified by *Entered_node_specification* is not on the switch.

Explanation: The specified node is not on the switch.

User Response: Specify a node that is on the switch.

0028-164 Eduration command not valid for SP Switch.

Explanation: The use of the **Eduration** command on a system with an SP switch is not supported.

User Response: None.

0028-165 Node number *node_number* designates a node in a *Partition_string* partition.

Explanation: The hostname indicated that a node is in a PSSP 1.2 partition, which does not support node isolation.

User Response: Specify a node from a supported partition.

0028-166 Node number *node_number* designates the Primary backup node. The Primary backup node cannot be fenced or unfenced.

Explanation: The indicated node number belongs to the primary backup node, which cannot be fenced or unfenced.

User Response: Do not specify the primary backup node.

0028-170 Unable to retrieve the partition name from the Syspar object in the SDR.

Explanation: The attempt to read the **syspar_name** from the **Syspar** class in the SDR failed.

User Response: Check to see that the SDR daemon is running and that the **Syspar** class has not been corrupted.

0028-171 Cannot ping bootserver *bootserver_node_name* trying cws.

Explanation: The attempt to ping the bootserver before using it to distribute the topology file failed.

User Response: Use the control workstation.

0028-172 Distribution of topology to bootservers failed rc=*pcp_return_code*.

Explanation: The attempt to distribute the topology file to the bootserver through pcp failed.

User Response: Check the return code meaning and the status of the bootserver node.

0028-173 Bad return code from distribution of topologies, not all nodes may have the topology file rc=*pexscr_return_code*.

Explanation: The attempt to distribute the topology file to the secondary through pexscr and either some or all of the nodes failed.

User Response: Check the return code meaning and the status of the secondary nodes. **Estart** continues with good nodes.

0028-174 Unable to distribute topology file to the following nodes. They will not be unfenced: *nodes_that_failed*.

Explanation: The attempt to distribute the topology file to the nodes failed. These nodes may not have the proper file and should not be unfenced.

User Response: Check to see if the nodes are available on the ethernet and make sure they have enough space or proper permissions for the topology file.

0028-175 Cannot determine topology file to distribute from topology.data. /var/adm/SPlogs/css/topology.data file not found.

Explanation: Attempt to distribute the topology file to the nodes failed because the topology.data file could not be found in the /var/adm/SPlogs/css directory. This file is created on Estart.

User Response: Check whether the /var filesystem on the primary node is full. If not, try issuing Estart then retry the original command.

0028-176 Unable to distribute topology file to any nodes. Check host_responds for the nodes.

Explanation: Attempt to distribute the topology file to the nodes failed because the nodes either had host_responds down or none of the nodes has a css adapter.

User Response: Check whether host_responds is working on the system.

0028-177 Received errors in distribution of topology file to /tmp on at least one bootserver. See /var/adm/SPlogs/css/dist_topology.log on primary node for details.

Explanation: Attempt to distribute the topology file to the bootservers failed. /var/adm/SPlogs/css/dist_topology.log will have the actual system error messages. Probable reason is Kerberos authentication on the node failed or the node has a dasd space problem.

User Response: Check the log and correct the failure. Retry the command.

0028-178 Received errors in distribution of topology file from bootserver to at least one node. See /var/adm/SPlogs/css/dist_topology.log on primary node for details.

Explanation: Attempt to distribute the topology file to the node from a bootserver failed. /var/adm/SPlogs/css/dist_topology.log will have the actual system error messages. Probable reason is Kerberos authentication on the node or the node has a dasd space problem.

User Response: Check the log and correct the failure. Retry the command.

0028-180 The Eunpartition command failed — insufficient memory.

Explanation: Internal error.

User Response: Contact IBM Support.

0028-181 The Eunpartition failed — daemon busy. Retry command.

Explanation: The fault service daemon is processing a request.

User Response: Retry the command.

0028-182 The Eunpartition failed — not valid for HiPS switch.

Explanation: The **Eunpartition** command is not valid for the High Performance Switch.

User Response: Retry the **Eunpartition** command.

0028-183 No css0 adapter found on this node.

Explanation: Could not find a **css0** adapter in the ODM on this node.

User Response: Verify the node has a **css0** adapter installed.

0028-184 Warning: ss switch to switch link(s) did not initialize. Switch performance may be affected.

Explanation: Some number of switch to switch links did not initialize during Estart. This can affect switch performance. Possible causes are un-setted, missing or faulty switch-to-switch cable or other switch hardware problem.

User Response: Review the out.top file to more details.

Chapter 38. 0034 - IBM Virtual Shared Disk Common Messages

0034-001 Cannot open or access file *file_name***.**

Explanation: The file does not exist or does not have the appropriate permissions.

User Response: Verify that the file exists with the appropriate permissions.

0034-002 Error opening vsd *vsd_name***.**

Explanation: The Virtual Shared Disk device cannot be opened or does not exist.

User Response: Make sure that the Virtual Shared Disk device exists.

0034-003 The *ioctl_string* **ioctl() call failed.**

Explanation: The **ioctl** call failed for the specified ioctl.

User Response: See the **errno** to determine the reason for failure.

0034-004 The call to odm_initialize() failed (odmerrno = *odmerrno_value***).**

Explanation: The call to **odm_initialize()** to start the ODM for use by the Virtual Shared Disk failed. The **odmerrno** variable has been set to indicate the error.

User Response: Use the *odmerrno_value* to determine the reason for failure.

0034-005 The call to genmajor() failed (conferrno = *conferrno_value***).**

Explanation: The call to **genmajor()** to retrieve the Virtual Shared Disk major number failed. The **conferrno** variable has been set to indicate the error.

User Response: Use the **conferrno** and the **errno** values to determine the reason for failure.

0034-006 Error unloading the VSD kernel extension.

Explanation: The **loadext()** call failed.

User Response: Check the system **errno** displayed to determine the reason for failure.

0034-007 The VSD device driver is not loaded.

Explanation: The Virtual Shared Disk device driver should already be loaded.

User Response: Configure the Virtual Shared Disk

0034-008 The VSD *command_name* **passed to the VSD Device with minor number VSD** *minor_number* **failed.**

Explanation: The Virtual Shared Disk device driver encountered an error condition while processing the specified command.

User Response: See the **errno** to determine the reason for failure.

0034-009 With the -a option, additional parameters are not allowed.

Explanation: The user specified the **-a** option on the command line. The user cannot specify additional parameters on the command line.

User Response: Issue the command again with no additional parameters.

0034-010 File *file_name* **not found.**

Explanation: The specified file does not exist.

User Response: Enter the Virtual Shared Disk data in the SDR and this file will be created automatically the next time **cfgvsd** is called.

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0034-011 Definition of VSD *vsd_name* **not found in file** *VSD_Table_pathname***.**

Explanation: The specified Virtual Shared Disk could not be found in the VSD_Table file.

User Response: Check that the data in the Virtual Shared Disk files are correct. Modify the SDR as necessary.

0034-012 Definition of global volume group *global_group_name* **not found in file** *VSD_Global_Volume_Group_file_pathname***.**

Explanation: The specified global volume group could not be found in the VSD_Global_Volume_Group_file.

User Response: Check that the data in the Virtual Shared Disk files are correct. Modify the SDR as necessary.

0034-013 Parameters of node *node_number* **not found in file** *node_file_pathname***.**

Explanation: The local node in the node file could not be found. Not all Virtual Shared Disk attributes are properly defined for the node *node_number*.

User Response: Run **vsdatalst -n** to display all Virtual Shared Disk node attributes and check the attributes for node *node_number*. Use the **vsdnode** command to properly define the Virtual Shared Disk attributes for node *node_number*. Once the SDR has been modified, reissue the failing command.

0034-014 Cannot allocate memory for *item***.**

Explanation: The **malloc** call to allocate temporary storage for the item failed.

User Response: This is a system problem.

0034-015 Message not found. VSD *vsd_name* **cannot be the same as the logical volume name.**

Explanation: The Virtual Shared Disk and the underlying logical volume cannot have the same name. The /**dev** block and character files created by the Virtual Shared Disk would overwrite the /**dev** block and character files created by the logical volume of the same name. Both the Virtual Shared Disk and the logical volume would be rendered unusable.

User Response: Make up a new Virtual Shared Disk name. The recommended convention is **vsd.***lv_name*. Retry the operation.

0034-016 VSD *vsd_name* **is in the** *current_state* **state. The** *method* **method moves VSDs from the** *from_state* **state to the** *to_state***. Use** *commands* **to move** *vsd_name* **from the** *current_state* **to the** *to_state* **state.**

Explanation: The method could not operate on the **vsd_name** because it was not in the proper state. The method expects VSDs in the **from_state** and not the **current_state**

User Response: Use the commands that move the Virtual Shared Disk from the **current_state** to the **to_state**.

0034-017 Command failed on *vsd_name***.**

Explanation: The method invoked the command for **vsd_name**, however, the command failed for that Virtual Shared Disk.

User Response: See the previous error message from the command to determine the reason for the failure. Use the **vsd_name** from this message.

0034-030 Maximum cache buffer count cannot be less than initial cache buffer count.

Explanation: The **-c** option specifies the initial cache buffer count and the **-x** option specifies the maximum cache buffer count. The maximum cache buffer count must be greater than or equal to the initial cache buffer count.

User Response: Check the *init_cache_buffer_count* and the *max_cache_buffer_count* attributes on the SDR **Node** object by using **vsdatalst -n** for the node on which you received this message. Correct the attributes using **vsdnode** and reissue the **cfgvsd** command.

0034-031 Error unlinking *device_name***.**

Explanation: The Virtual Shared Disk special file already exists with a device number different from the specified device number.

User Response: Use rm to remove the *device_name* from /**dev**.

0034-032 Error loading the VSD kernel extension.

Explanation: The **loadext()** call failed.

User Response: The error in loading the Virtual Shared Disk kernel extension produces messages explaining the reason for failure prior to generating message 0034-032. Refer to these messages to determine what your action should be.

0034-033 Error configuring the VSD device.

Explanation: The **sysconfig()** call failed.

User Response: See the **errno** to determine the reason for failure.

0034-034 Device already exists.

Explanation: The **sysconfig()** call failed and **errno** is EALREADY. The device is already configured.

User Response: Do not attempt to configure a device that is already configured.

0034-035 *name* **is too long. Length must be less than or equal to 31 characters.**

Explanation: The name passed is unacceptable. The length of the name must be less than or equal to 31 characters.

User Response: Correct the name's length and reenter the command.

0034-036 Special Device File *file_name* **already exists and does not have the proper VSD major number of** *major_number***.**

Explanation: The file the Virtual Shared Disk is trying to create already exists for a non-Virtual Shared Disk device.

User Response: Change the name of the Virtual Shared Disk that conflicts with the existing device or remove the existing device file and reissue your operation.

0034-037 Can't create Special Device File *file_name***.**

Explanation: The Virtual Shared Disk special device files that create operation (mknod) failed. The reason for the mknod failure is also printed.

User Response: Refer to the mknod failure message to correct the problem.

0034-040 *node_number* **!ATTENTION! Bad node number in file** *file_name***. Ignored.**

Explanation: A bad node number was found in the **VSD_ipaddr** file.

User Response: No action required.

0034-050 Invalid Cache Size, *cache_size***.**

Explanation: An invalid cache size was passed in.

User Response: Retry the command with a valid cache size.

0034-051 !ATTENTION! Invalid Node Number, *node_number***. Ignored!**

Explanation: A node number passed in was out of the valid range 1,MAX_VSD_NODES.

User Response: No action required.

0034-052 Invalid parallelism value, *parallelism_value***.**

Explanation: An invalid parallelism value was passed in. The value must be between 1 and 9.

User Response: Retry the command with a valid parallelism value.

0034-053 Invalid max IP message size value, *max IP message size value***.**

Explanation: An invalid parallelism value was passed in. The value must be between 1 and 9.

User Response: Retry the command with a valid parallelism value.

0034-060 Invalid VSD command *command_name*.

Explanation: The command name passed to **dovsd2** was invalid.

User Response: Pass a valid command to **dovsd**. Valid commands are **preparevsd**, **suspendvsd**, **stopvsd**, and **ucfgvsd**.

0034-070 The -s and -l flags are not compatible.

Explanation: The **-s** (usage statistics) and the **-l** (configuration information) flags cannot be used together.

User Response: Reissue the command with only one of these flags.

0034-071 Cannot allocate memory for VSD information. The count of VSDs is *vsd_count*.

Explanation: The **malloc** call to allocate temporary storage for the Virtual Shared Disk information failed.

User Response: Try again, specifying an Virtual Shared Disk this time.

0034-080 Can't access logical volume *logical_volume*.

Explanation: The call to stat the logical volume to retrieve the device number failed.

User Response: Make sure the logical volume exists. You may need to create it with **mklv**.

0034-090 Invalid server specification. Specify one -p or -b.

Explanation: The user must specify **-p** (primary) or **-b** (backup).

User Response: Reissue the command with either **-p** or **-b**.

0034-091 No server specified. Specify one of -p or -b.

Explanation: The user must specify **-p** (primary) or **-b** (backup).

User Response: Reissue the command with either **-p** or **-b**.

0034-092 Server (*server_name*) for VSD (*server_name*) is invalid. Ignoring VSD *vsd_name*.

Explanation: An invalid server was found for the specified Virtual Shared Disk.

User Response: The Virtual Shared Disk was ignored. Check primary and backup servers you entered for this Virtual Shared Disk and correct them in the SDR.

0034-100 The VSD character special device file *character_device_name* is not found. Have you run cfgvsd *vsd_name*?

Explanation: The /**dev**/**r**<*vsd_name*> device file does not exist.

User Response: Run **cfgvsd** to configure the device.

0034-101 The VSD device driver was not found at *device_driver_ pathname*.

Explanation: The Virtual Shared Disk device driver was not properly installed or was removed.

User Response: Install the Virtual Shared Disk.

0034-102 Step 1: Step *step_number* failed. The return code is *return_code*.

Explanation: The write of the vsdd device driver to the specified Virtual Shared Disk failed.

User Response: Check that the Virtual Shared Disk exists and has been properly installed and configured.

0034-105 The file *file_name* is too small; it must be at least 512 bytes.

Explanation: The minimum block size to a raw device is 512 bytes for **vsdvts** to be able to use it to write to a VSD.

User Response: Reissue **vsdvts**, specifying that it use a large file.

0034-108 *VSD_name* **is not an active VSD. Have you run cfgvsd?**

Explanation: The parameter to **vsdvts** must be an Virtual Shared Disk in the active state.

User Response: Make sure you have defined your Virtual Shared Disk; run **cfgvsd** and **startvsd**; and run **lsvsd -l** to see your Virtual Shared Disk in the active state.

0034-112 **The block size must be a multiple of 512 to a raw VSD device.**

Explanation: The block size must be a multiple of 512 for input and output to a Virtual Shared Disk raw device. VSDs are accessed as raw devices. For example, **dev**/*rvsd_name*. The **read** and **write** system calls fail to raw devices if the block size is not a multiple of 512.

User Response: Change the block size so that it is a multiple of 512 and issue the command again.

0034-116 **Check** *VSD_table_name* **table in the SDR, cannot find the table.**

Explanation: Some fields in the Virtual Shared Disk table are incorrect.

User Response: Run SMIT to set Virtual Shared Disk information.

0034-117 **Check** *VSD_table_name* **table in the SDR, it is an empty table.**

Explanation: Some fields in the Virtual Shared Disk table are incorrect.

User Response: Run SMIT to set Virtual Shared Disk information.

0034-118 **Check** *VSD_table_name* **table in the SDR, undefined field is found.**

Explanation: Some fields in the Virtual Shared Disk table are incorrect.

User Response: Run SMIT to set Virtual Shared Disk information.

0034-119 **Failed to create new VSD files, default will be current /usr/lpp/csd/vsdfiles.**

Explanation: At least one of the new Virtual Shared Disk tables is incorrect.

User Response: Run SMIT to set Virtual Shared Disk information.

0034-120 **Lock file** *file_name* **held too long; I am taking it. You may want to investigate.**

Explanation: **readSDR** uses a lock file, which is a directory. **readSDR** waits about 7 seconds for the lock, then generates this message and continues running. If you see this message after the first **cfgvsd** following a reboot, it probably means that the system crashed in the middle of a previous **cfgvsd**, leaving behind a lock file. If this is the case, you can ignore the message.

If the message is generated in circumstances other than the first **cfgvsd** following a reboot, it may be that another process is running a **cfgvsd** and that process is hung. Insure that **/usr/lpp/csd/vsdfiles** is a writable directory on a writable file system.

User Response: If this is not the first **cfgvsd** after a reboot, check to see if another process is running **cfgvsd** and if that process is hung.

0034-121 **Unable to find and create** *vsd_flat_file_directory_name***.**

Explanation: The file was not found and the **mkdir** command to create it failed.

User Response: Investigate the **mkdir** failure and fix the problem. If the parent directory is not writable on this node, go to a node where you can write to the directory and make this file a symbolic link to a file system that is writable from the original node.

0034-126 Failed to unconfigure *VSD_name* **because it is part of a configured HSD.**

Explanation: You cannot unconfigure a vsd that is inside of a configured HSD.

User Response: Issue **lshsd -l** to find the HSD, then unconfigure the HSD before unconfiguring the vsd.

0034-127 Some Virtual Shared Disks are not at appropriate state before operation. Use lsvsd -l to check the states.

Explanation: In order to run operations such as **preparevsd**, **startvsd**, **resumevsd**, **suspendvsd**, **stopvsd**, and **ucfgvsd**, the Virtual Shared Disk must be in the appropriate state before running the operation.

User Response: Use the **lsvsd** command with the **-l** option to verify the Virtual Shared Disk state.

0034-128 IBM Virtual Shared Disk is not configured.

Explanation: In order to run the **ucfgvsd** operation on a Virtual Shared Disk, this Virtual Shared Disk must be configured first.

User Response: Use the **cfgvsd** command to configure the Virtual Shared Disk, and try the failed command again.

Chapter 39. 0035 - cstartup Messages

0035-001 Cannot create *log file* directory.

Explanation: cstartup could not create the named log file directory.

User Response: Investigate why directory could not be created.

0035-002 Cannot create/write to *log file*.

Explanation: cstartup could not create/write the named log file.

User Response: Investigate why file could not be created/written.

0035-004 Cannot read the *sequence file*.

Explanation: cstartup could not read sequence file.

User Response: Investigate why file could not be read.

0035-005 Argument specified with -W, *argument*, is not numeric.

Explanation: Argument specified with -W flag is not numeric.

User Response: Specify a numeric argument with the -W flag.

0035-006 Argument specified with -W, *argument*, is negative.

Explanation: Argument specified with -W flag is negative.

User Response: Specify an argument with the -W flag that is 0 or positive.

0035-008 Option specified, *invalid option*, is invalid.

Explanation: An invalid option was specified on the command line.

User Response: See the usage message for valid options.

0035-009 Option specified, *option*, requires an argument.

Explanation: The option specified requires a parameter..

User Response: See the usage message for command syntax.

0035-010 The "target_nodes" parameter was not specified.

Explanation: The target_nodes was not specified on the command line.

User Response: Re-issue the cstartup command with target nodes.

0035-011 The specified file, *file*, is not readable.

Explanation: A file was specified in target_node parameter that is not readable.

User Response: Investigate why the file is unreadable.

0035-012 Error reading target nodes from specified file, *specified file*.

Explanation: An error occurred reading from a file specified in the target_node parameter.

User Response: Investigate why the file is unreadable.

0035-013 The -N option was specified, and *specified node number* is not a valid node number.

Explanation: A value specified in the target_nodes parameter is not a number.

User Response: When specifying -N, only give numbers for the target_nodes parameter.

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0035-014 The -N option was specified, and *lower range number, upper range number* is not a valid range of node numbers.

Explanation: A node number range, A-B, was specified where A is not less than B.

User Response: When a node number range, A-B, is specified, A should be less than B.

0035-015 "SDRGetObjects Node node_number" failed with a return value of *SDR rc*.

Explanation: The SDRGetObjects command failed to obtain information about the processor nodes on the SP system.

User Response: Investigate the cause of the SDRGetObjects failure using the return value provided.

0035-016 Could not determine whether command was running on the control workstation.

Explanation: Could not find /usr/lpp/ssp/install/bin/node_number, or it returned an error code.

User Response: Try running /usr/lpp/ssp/install/bin/node_number and investigate the error.

0035-017 This command can only be run on a control workstation.

Explanation: The command was not run on a control workstation.

User Response: Run the command on a control workstation.

0035-018 Target node(s) *target_node* is not in current partition.

Explanation: The command was issued without the **-G** option, and one or more target nodes specified are outside the current system partition. Unless **-G** is specified, the command allows startup only for the nodes in the current system partition.

0035-100 Unexpected failure to allocate memory.

Explanation: A call to malloc() failed.

User Response: Try command again. If problem persists contact customer support.

0035-101 csStart invoked without target node list.

Explanation: csStart was invoked without a list of target nodes.

User Response: csStart is meant to be invoked only from cstartup.

0035-102 Could not obtain list of all cluster nodes.

Explanation: cstartup could not obtain the list of cluster nodes.

User Response: Investigate the cause of the failure. The cause may be described in prior messages.

0035-103 Failed to create linked list.

Explanation: An attempt to create a linked list structure failed.

User Response: Try command again. If problem persists contact customer support.

0035-104 Illegal character specified in target node list. The target node list may not contain the following characters: # , > :

Explanation: The target nodes specified on the command line, or in a file if the -R flag was specified, contained an illegal character.

User Response: Specify the target nodes without these characters: "#,>:".

0035-105 The target node list passed to csStart contains a tab character, which is not allowed.

Explanation: The target node list passed to csStart contains a tab character.

User Response: Remove the tab character from target node list.

0035-106 No nodes listed in target node list.

Explanation: The target node list specified on the command line is empty.

User Response: Specify target nodes when invoking this command.

0035-107 Unknown node, *node name***, listed in target node list.**

Explanation: The target node list specified an unknown node.

User Response: Issue the command again specifying known nodes.

0035-108 Could not obtain power status for node *node number***.**

Explanation: Could not obtain power status for the indicated node from the Frame Controller Interface (FCI).

User Response: Check the state of the FCI.

0035-109 Could not determine whether node *node number* **is running.**

Explanation: Could not obtain status for the indicated node from the Frame Controller Interface (FCI).

User Response: Check the state of the FCI.

0035-110 Node *node_number* **appears to be running, yet it also appears to be powered off. The node may be in an intermediate state. Ensure the node is not hung. Make sure HostResponds is reporting the correct state. If node is hung, power off the node either via the GUI or physically power it off at the frame.**

Explanation: The node appears to be both running and powered off. Apparently, the node is in an intermediate state. The cstartup command will not run while nodes are in this state.

User Response: Try the command again in a few minutes.

0035-111 The following groups in *group name***, have circular sequencing relationships:**

Explanation: There is a circular dependency among the groups listed. A simple circular dependency would be A > B > A. In this example, A depends on B, and B depends on A.

User Response: Redefine the dependencies in the file such that none of them are circular.

0035-112 Illegal character in node name *node name***. Nodes are not permitted to contain :, >, #, commas, tabs, or blanks in their names.**

Explanation: The name of the specified node contains a character that cstartup cannot deal with correctly.

User Response: Remove illegal characters.

0035-113 Was unable to add *group name* **group to a linked list.**

Explanation: An attempt to add information about a group to a linked list failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0035-114 Was unable to create a linked list for group *group name*

Explanation: An attempt to create a linked list for the group failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0035-115 An already defined node, *node name***, has lost its group structure pointer.**

Explanation: This is a programming error.

User Response: Contact your customer support organization.

0035-116 An already defined node, *node name***, has lost its group name pointer.**

Explanation: This is a programming error.

User Response: Contact your customer support organization.

0035-117 In line *line number* **of sequence file, node** *node name***, is assigned to group** *new group name***. But, it had already been assigned to group** *old group name***.**

Explanation: The specified node is assigned to two groups.

User Response: Change group definitions such that each node is in at most one group.

0035-118 Was unable to add *node name* **node to a linked list.**

Explanation: An attempt to add information about a node to a linked list failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0035-119 Could not locate group *group name* **in group list.**

Explanation: An attempt to find information about a group in a linked list failed. This is a programming error.

User Response: Contact your customer support organization.

0035-120 Trying to create an unknown node type.

Explanation: This is a programming error.

User Response: Contact your customer support organization.

0035-123 Failed to open *file name***.**

Explanation: Attempt to open file failed.

User Response: Investigate cause of failure.

0035-124 Premature end of line encountered in sequence file at line *line number***.**

Explanation: Expected more information on line.

User Response: Ensure the line is correct according to the syntax for sequence files.

0035-125 The name *reserved name***, is a reserved internal name and may not be used as a group name. It is used in line** *line number***. of sequence file.**

Explanation: The cstartup command uses an internal group to keep track of nodes that are not explicitly assigned a group. The name of this internal group is reserved. A group defined in a sequence file uses this reserved name.

User Response: Change the name of the group in the sequence file.

0035-126 No node specified following : at line *line number* **of sequence file.**

Explanation: A group definition line in a sequence file does not provide a list of members for the group.

User Response: Correct the group definition line.

0035-127 No node specified following comma at line *line number* **of sequence file.**

Explanation: A group definition line in a sequence file ends with a comma.

User Response: Correct the group definition line.

0035-128 Blank or tab found in node name at line *line number* **of sequence file.**

Explanation: A blank or tab was found in a node name in a sequence file. Node names must not contain blanks or tabs.

User Response: Correct the node name in the sequence file.

0035-129 Group definition line was corrupted for line *line number* **of sequence file.**

Explanation: There is an error in the group definition line.

User Response: Review any previous messages and correct the line.

0035-130 Comma found in group name at line *line number* **of sequence file.**

Explanation: A comma was found in a group name in a sequence file. Node names must not contain commas.

User Response: Correct the group name in the sequence file.

0035-131 Blank or tab found in group name at line *line number* **sequence file.**

Explanation: A blank or tab was found in a group name in a sequence file. Group names must not contain blanks or tabs.

User Response: Correct the group name in the sequence file.

0035-132 More than one ":" in line *line number* **of sequence file.**

Explanation: A group definition line must only contain one ":", which separates the group name from the group members.

User Response: Correct the sequence file.

0035-133 Sequencing is not allowed on definition lines. A ">" was found in line *line number* **of sequence file.**

Explanation: A group definition line must not contain a ">", which is used on sequencing lines.

User Response: Correct the sequence file.

0035-134 Parenthesis not allowed in definition lines. Parenthesis found in line *line number* **of sequence file.**

Explanation: A group definition line must not contain a parenthesis.

User Response: Correct the sequence file.

0035-135 An illegal node, *node name***, appears at line** *line number* **of sequence file.**

Explanation: A non-existent node is in a line of the sequence file.

User Response: Correct the sequence file.

0035-136 Definition is not allowed in sequencing lines. A ":" was found in line *line number* **of sequence file.**

Explanation: A group sequencing line must not contain a ":", which is used on group definition lines.

User Response: Correct the sequence file.

0035-137 A sequencing line needs at least 1 sequence in the line. Invalid sequencing line at line *line number* **of sequence file.**

Explanation: A group sequencing line must at least define the relationship between 2 groups.

User Response: Correct the sequence file.

0035-138 No group specified following ">" at line *line number* **of sequence file.**

Explanation: In a group sequencing line there is a ">" without a following group name.

User Response: Correct the sequence file.

0035-139 Missing sequence definition at line *line number* **sequence file.**

Explanation: In a group sequencing line there is a ">" without a following group name.

User Response: Correct the sequence file.

0035-140 Bad format of stanza line *line number* **in sequence file.**

Explanation: The line is incorrect.

User Response: Review previous messages and correct the sequence file.

0035-141 No group specified following (at line *line number* **of sequence file.**

Explanation: A group name is expected after the (.

User Response: Correct the sequence file.

0035-142 No group specified following comma at line *line number* **of sequence file.**

Explanation: A group name is expected after the comma.

User Response: Correct the sequence file.

0035-143 The group, *group name***, precedes itself in the sequence line at line** *line number* **of the sequence file.**

Explanation: A group name cannot precede itself on a sequence line.

User Response: Correct the sequence file.

0035-144 ListCreate() returned NULL, indicating error.

Explanation: Failure to create a linked list.

User Response: If a previous message indicates a problem allocating memory, try the command again. If the problem persists, contact your customer support organization.

0035-145 Failure with System Data Repository (SDR) routine. *SDR routine name* **failed with return code** *SDR routine return code***.**

Explanation: Failure with SDR routine.

User Response: Investigate the cause of the failure of the SDR.

0035-146 An object obtained from the System Data Repository (SDR) in the Node object class does not have a node_number. The object is ignored.

Explanation: Problem with data in Node object class in the System Data Repository (SDR).

User Response: Investigate the information in the Node object class in the SDR.

0035-147 Node *node number* **does not have a reliable_hostname in the Node object class of the System Data Repository (SDR). The object is ignored.**

Explanation: Problem with data in Node object class in the System Data Repository (SDR).

User Response: Investigate the information in the Node object class in the SDR.

0035-148 ListInsert() indicated error.

Explanation: Failure to insert into a linked list.

User Response: If a previous message indicates a problem allocating memory, try the command again. If the problem persists, contact your customer support organization.

0035-149 Could not find any valid objects in the Node object class of the System Data Repository (SDR).

Explanation: The cstartup command determines the valid processor nodes on the system via the SDR. No valid nodes were found.

User Response: Investigate the information in the Node object class in the SDR.

0035-150 Failure with Frame Controller Interface (FCI) routine. *FCI routine name* **failed with return code** *FCI routine return code***.**

Explanation: Failure with FCI routine.

User Response: Investigate the cause of the failure of the FCI.

0035-151 Null or bad pointer passed to routine *routine name***.**

Explanation: This is a programming error.

User Response: Please contact you customer support organization.

0035-152 Cannot identify 1 or more targets in list.

Explanation: The target list is either empty or contains invalid nodes numbers or target ids.

User Response: Issue the command again specifying known nodes.

0035-153 Circularity has been detected in sequence file.

Explanation: There is a circular dependency among some groups. A simple circular dependency would be A > B > A. In this example, A depends on B, and B depends on A.

User Response: Redefine the dependencies in the file such that none of them are circular.

0035-154 The initial state of nodes does not allow the the command to continue.

Explanation: The nodes are not in the proper state according to the flags specified and the sequence information. A simple example would be nodeA > nodeB and nodeA is already up. The command - cstartup -N nodeA nodeB would fail because nodeA is up and you didn't tell cstartup to either ignore it or reset it.

User Response: Issue the command again specifing correct flags.

0035-155 The -E and -k flag are mutually exclusive.

Explanation: The -E and -k flag can not be used together.

User Response: Issue the command with one or the other flag, not both.

0035-156 The -E and -z flag are mutually exclusive.

Explanation: The -E and -z flag can not be used together.

User Response: Issue the command with one or the other flag, not both.

0035-157 The -Z and -z flag are mutually exclusive.

Explanation: The -Z and -z flag can not be used together.

User Response: Issue the command with one or the other flag, not both.

0035-158 Node *nodename*, **(***node number***), of predecessor group** *Pred. Group* **is initially down and is a non-target node.**

Explanation: The node belongs to a predecessor group and needs to be running before any trailing nodes can start up.

User Response: Either start or power on the node and issued the command, or issue the command using the -X flag.

0035-159 Node *nodename*, **(***node number***) is initially up before its leader(s).**

Explanation: The node is up and running prior to its predecessor running.

User Response: Either shutdown the node or issue the command with the -Z or -z flag.

0035-160 *program name* **failed -- pre-existing sequence violation.**

Explanation: Sequence violations were detected. Review any previous messages for more information.

User Response: Correct sequence file and issue command.

0035-161 Node *nodename*, **(***node_number***) is running and the -Z flag was not specified. Command exiting.**

Explanation: The target node is already running and the -Z flag was not specified to reset the node.

User Response: Either power off the node or issue the command with the -Z flag.

0035-162 Problem with polling the state of node(s). Refer to previous message for any problems with FCI.

Explanation: cstartup was not able to accurately determine the state of some node(s). Refer to any above message about problems with the Frame Controller Interface (FCI).

User Response: Check the state of the FCI.

0035-163 According to line *line number* **of the sequence file, group** *group 1* **is a predecessor of group** *group 2***.**

Explanation: The relationship between the groups is conflicting according to the sequence file.

User Response: Correct the sequence file and issue the command again.

0035-164 A node is not responding in the alotted time. Exiting. System in not in a stable state.

Explanation: The **-W** flag was used and time specified to wait had been exceeded. The command continued as far as the sequence file would allow without started targets dependent on the failing node.

User Response: Determine why the node failed to boot and retry the command.

0035-165 Could not obtain node list of current partition.

Explanation: **cstartup** could not obtain the list of the nodes in the current system partition.

User Response: Investigate the cause of the failure. The cause may be described in prior messages.

0035-166 Target node(s) *target_node* **is not in current partition.**

Explanation: The command was issued without the **-G** option, and one or more target nodes specified are outside the current system partition. Unless **-G** is specified, the command allows startup only for the nodes in the current system partition.

0035-167 Target node *target_node* **depends on node** *outside_node* **outside current partition.**

Explanation: The sequence file indicates that the target node indicated in the message has a dependency on a node outside current partition.

User Response: Either remove the target node from the target node list, or issue the command with the **-G** option to ignore system partition boundaries or the **-X** option to force action.

Chapter 40. 0036 - cshutdown Messages

0036-001 Cannot create *log file directory* **directory.**

Explanation: **cshutdown** could not create the named log file directory.

User Response: Investigate why directory could not be created.

0036-002 Cannot create/write to *log file***.**

Explanation: **cshutdown** could not create/write the named log file.

User Response: Investigate why file could not be created/written.

0036-003 Cannot create an empty *sequence file***.**

Explanation: **cshutdown** could not create empty sequence file.

User Response: Investigate why file could not be created.

0036-004 Cannot read the *sequence file* **file.**

Explanation: **cshutdown** could not read sequence file.

User Response: Investigate why file could not be read.

0036-005 Argument specified with -W, *specified -W argument***, is not numeric.**

Explanation: Argument specified with -W flag is not numeric.

User Response: Specify a numeric argument with the -W flag.

0036-006 Argument specified with -W, "*specified -W argument* **", is negative.**

Explanation: Argument specified with -W flag is negative.

User Response: Specify an argument with the -W flag that is 0 or positive.

0036-007 Only one of the options -h, -k, -m, -r are allowed.

Explanation: More than one of the -h, -k, -m, -r options were specified.

User Response: Specify at most one of these options.

0036-008 Time specified with -T, "*specified -T argument***", has invalid format.**

Explanation: The time specified with the **-T** option is in an incorrect format.

User Response: Specify the time as a non-negative number of minutes, or as "hh:mm", where "hh" is an hour ranging from 0 to 23, and "mm" is the minutes of the hour ranging from 00 to 59.

0036-009 Hour specified with -T, *hour specified in -T argument***, is greater than 23.**

Explanation: The time specified with the **-T** option has an invalid hour.

User Response: Specify the time as a non-negative number of minutes, or as "hh:mm", where "hh" is an hour ranging from 0 to 23, and mm" is the minutes of the hour ranging from 00 to 59.

0036-010 Minute specified with -T, *minute specified in -T argument***, is greater than 59.**

Explanation: The time specified with the -T option has an invalid minute.

User Response: Specify the time as a non-negative number of minutes, or as "hh:mm", where "hh" is an hour ranging from 0 to 23, and "mm" is the minutes of the hour ranging from 00 to 59.

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0036-011 Option specified, "*invalid option* **", is invalid.**

Explanation: An invalid option was specified on the command line.

User Response: See the usage message for valid options.

0036-012 Option specified, "*option requiring argument***", requires an argument.**

Explanation: The option specified requires a parameter..

User Response: See the usage message for the type of argument specified.

0036-013 The -M option was specified without the -T option.

Explanation: The **-M** option was specified without the **-T** option.

User Response: Specify the **-T** option when specifying the **-M** option.

0036-014 The -C option was specified without the -r option.

Explanation: The -C option was specified without the -r option.

User Response: Specify the -r option when specifying the -C option.

0036-015 The "target_nodes" parameter was not specified.

Explanation: The *target_nodes* was not specified on the command line.

User Response: Re-issue the **cshutdown** command with target nodes.

0036-016 The specified file, "*specified file***", is not readable.**

Explanation: A file was specified in the *target_node1* parameter that is not readable.

User Response: Investigate why the file is unreadable.

0036-017 Error reading target nodes from specified file "*specified file***".**

Explanation: An error occurred reading from a file specified in the *target_nodes* parameter.

User Response: Investigate why the file is unreadable.

0036-018 The -N option was specified, and "*specified node number***" is not a valid node number.**

Explanation: A value specified in the *target_nodes* parameter is not a number.

User Response: When specifying -N, only give numbers for the *target_nodes* parameter.

0036-019 The -N option was specified, and "*specified node number range***" is not a valid range of node numbers.**

Explanation: A node number range, A-B, was specified where A is not less than B.

User Response: When a node number range, A-B, is specified, A should be less than B.

0036-020 "SDRGetObjects Node node_number" failed with a return value of *Return value from SDRGetObjects***.**

Explanation: The **SDRGetObjects** command failed to obtain information about the processor nodes on the SP system.

User Response: Investigate the cause of the **SDRGetObjects** failure using the return value provided.

0036-021 Failed to obtain IP address of this processor.

Explanation: Failed to obtain the IP address of this processor with the hostname command.

User Response: Investigate the cause of the failure of the hostname command.

0036-022 Could not determine whether command was running on the control workstation.

Explanation: Could not find **/usr/lpp/ssp/install/bin/node_number**, or it returned an error code.

User Response: Try running **/usr/lpp/ssp/install/bin/node_number** and investigate the error.

0036-023 This command can only be run on a control workstation.

Explanation: The command was not run on a control workstation.

User Response: Run the command on a control workstation.

0036-024 Attempt to create temporary node sequencing file failed. The seqfile command returned error *seqfile return value***.**

Explanation: An attempt to generate a temporary node sequencing file with seqfile failed.

User Response: Investigate the causes of the failure.

0036-025 Subsystem command *subsystem command* **does not exist on** *node name***.**

Explanation: A subsystem command does not exist on the specified node.

User Response: Install the command on the node.

0036-026 Subsystem command *subsystem command* **is not executable on** *node name***.**

Explanation: A subsystem command is not executable on the specified node.

User Response: Use the **chmod** command to make the subsystem command executable.

0036-027 Cannot specify -R in "cstartup_options".

Explanation: -R was specified to be passed to the **cstartup** command. This is not allowed.

User Response: Specify **cshutdown** without the **cstartup** -R flag.

0036-100 Unexpected failure to allocate memory.

Explanation: A call to malloc() failed.

User Response: Try command again. If problem persists contact customer support.

0036-101 csControl option *csControl option specified* **requires an argument.**

Explanation: Option to csControl was specified without an argument, but an argument is required.

User Response: csControl is meant to be invoked only from **cshutdown**. If csControl was invoked from **cshutdown**, perhaps an invalid change was made to **cshutdown**.

0036-102 Invalid csControl option, *csControl option specified* **specified.**

Explanation: An invalid option to csControl was specified.

User Response: csControl is meant to be invoked only from **cshutdown**. If csControl was invoked from **cshutdown**, perhaps an invalid change was made to **cshutdown**.

0036-103 csControl invoked without required flag: *csControl option not specified***.**

Explanation: csControl was specified without a required flag.

User Response: csControl is meant to be invoked only from **cshutdown**. If csControl was invoked from **cshutdown**, perhaps an invalid change was made to **cshutdown**.

0036-104 csControl invoked without target node list.

Explanation: csControl was invoked without a list of target nodes.

User Response: csControl is meant to be invoked only from **cshutdown**. If csControl was invoked from **cshutdown**, perhaps an invalid change was made to **cshutdown**.

0036-105 Could not obtain list of all cluster nodes.

Explanation: **cshutdown** could not obtain the list of cluster nodes.

User Response: Investigate the cause of the failure. The cause may be described in prior messages.

0036-106 Failed to create linked list.

Explanation: An attempt to create a linked list structure failed.

User Response: Try command again. If problem persists contact customer support.

0036-107 Illegal character specified in target node list. The target node list may not contain the following characters: "#,>:".

Explanation: The target nodes specified on the command line, or in a file if the -R flag was specified, contained an illegal character.

User Response: Specify the target nodes without these characters: "#,>:".

0036-108 The target node list passed to csControl contains a tab character, which is not allowed.

Explanation: The target node list passed to csControl contains a tab character.

User Response: csControl is meant to be invoked only from **cshutdown**. If csControl was invoked from **cshutdown**, perhaps an invalid change was made to **cshutdown**.

0036-109 No nodes listed in target node list.

Explanation: The target node list specified on the command line is empty.

User Response: Specify target nodes when invoking this command.

0036-110 Unknown node, *specified unknown node***, listed in target node list.**

Explanation: The target node list specified an unknown node.

User Response: Issue the command again specifying known nodes.

0036-111 Could not obtain power status for node *node number***.**

Explanation: Could not obtain power status for the indicated node from the Frame Controller Interface (FCI).

User Response: Check the state of the FCI.

0036-112 Could not determine whether node *node number* **is running.**

Explanation: Could not obtain status for the indicated node from the Frame Controller Interface (FCI).

User Response: Check the state of the FCI.

0036-113 Node *node_number* **appears to be running, yet it also appears to be powered off. The node may be in an intermediate state. Ensure the node is not hung. Make sure HostResponds is reporting the correct state. If node is hung, power off the node either via the GUI or physically power it off at the frame.**

Explanation: The node appears to be both running and powered off. Apparently, the node is in an intermediate state. The **cshutdown** command will not run while nodes are in this state.

User Response: Try the command again in a few minutes.

0036-114 Failed to create the required number of child processes to warn users to log off targeted nodes. The fork() system call failed with errno *errno value after fork() system call***. Try the command again when there is less activity on the control workstation.**

Explanation: For each node to be shut down, a process is created to warn users to log off the node. The required number of processes could not be created.

User Response: Try the command again when there is less activity on the control workstation, or try the command again specifying fewer target nodes.

0036-115 While waiting for the completion of child processes created to warn users to log off targeted nodes, an unexpected error occurred. The wait() system call failed with errno *errno value after wait() system call***.**

Explanation: For each node to be shut down, a process is created to warn users to log off the node. While waiting for these processes to terminate, an unexpected failure occurred.

User Response: This condition probably indicates a programming error. Please notify your customer support organization.

0036-116 The following groups in *file name* **have circular sequencing relationships:** *list of groups*

Explanation: There is a circular dependency among the groups listed. A simple circular dependency would be A > B > A. In this example, A depends on B, and B depends on A.

User Response: Redefine the dependencies in the file such that none of them are circular.

0036-117 Some nodes are gated by others: Target nodes (*nodes***) are gated by non-target nodes (***nodes***).**

Explanation: Some target nodes cannot be shut down, because other nodes are not shut down.

User Response: Specify more nodes to be shut down, or specify the -X flag.

0036-118 Failed to create the required number of child processes to terminate non-root processes on targeted nodes. The fork() system call failed with errno *errno value after fork() system call***. Try the command again when there is less activity on the control workstation.**

Explanation: For each node to be shut down, a process is created to terminate non-root processes. The required number of processes could not be created.

User Response: Try the command again when there is less activity on the control workstation, or try the command again specifying fewer target nodes.

0036-119 While waiting for the completion of child processes created to terminate non-root processes on targeted nodes, an unexpected error occurred. The wait() system call failed with errno *errno value after wait() system call***.**

Explanation: For each node to be shut down, a process is created to terminate non-root processes. While waiting for these processes to terminate, an unexpected failure occurred.

User Response: This condition probably indicates a programming error. Please notify your customer support organization.

0036-120 Could not power off node *node number***.**

Explanation: Could not power off the indicated node with the Frame Controller Interface (FCI).

User Response: Check the state of the FCI.

0036-121 Node states have not stabilized. Nodes will not be restarted.

Explanation: The power and running states of the nodes just halted have not reached the expected values.

User Response: Wait for node states to stabilize, and retry command.

0036-122 Illegal character in node name *node name***. Nodes are not permitted to contain :, >, #, commas, tabs, or blanks in their names.**

Explanation: The name of the specified node contains a character that **cshutdown** cannot deal with correctly.

0036-123 Node structure for node *node name* **disappeared from linked list.**

Explanation: A structure describing a node has disappeared from the list.

User Response: This condition indicates a programming error. Please contact your customer support organization.

0036-124 Was unable to add *group name* **group to a linked list.**

Explanation: An attempt to add information about a group to a linked list failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0036-125 Was unable create a linked list for group *group name***.**

Explanation: An attempt to create a linked list for the group failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0036-126 An already defined node *node name***, has lost its group structure pointer.**

Explanation: This is a programming error.

User Response: Contact your customer support organization.

0036-127 An already defined node *node name***, has lost its group name pointer.**

Explanation: This is a programming error.

User Response: Contact your customer support organization.

0036-128 In line *line number* **of sequence file** *file name***,** *node name* **is assigned to group** *group name***, but it has already been assigned to group** *group***.**

Explanation: The specified node is assigned to two groups.

User Response: Change group definitions such that each node is in at most one group.

0036-129 Was unable to add *node name* **node to a linked list.**

Explanation: An attempt to add information about a node to a linked list failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0036-130 Could not locate group *group name* **in group list.**

Explanation: An attempt to find information about a group in a linked list failed. This is a programming error.

User Response: Contact your customer support organization.

0036-131 Trying to create an unknown node type.

Explanation: This is a programming error.

User Response: Contact your customer support organization.

0036-132 Failed to open *file name***, The open() system call failed with errno** *errno value after open() system call***.**

Explanation: Attempt to open file failed.

User Response: Investigate cause of failure. The meaning of the errno value can be determined by examining **/usr/include/sys/errno.h**.

0036-133 Premature end of line encountered in sequence file *file name* **at line** *line number***.**

Explanation: An attempt to add information about a group to a linked list failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0036-134 The name *reserved name* **is a reserved internal name and may not be used as a group name. It is used in line** *line number* **of** *file name***.**

Explanation: The **cshutdown** command uses an internal group to keep track of nodes that are not explicitly assigned a group. The name of this internal group is reserved. A group defined in a sequence file uses this reserved name.

User Response: Change the name of the group in the sequence file.

0036-135 No node specified following : at line *line number* **of sequence file** *file name*

Explanation: A group definition line in a sequence file does not provide a list of members for the group.

User Response: Correct the group definition line.

0036-136 No node specified following comma at line *line number* **of sequence file** *file name***.**

Explanation: A group definition line in a sequence file ends with a comma.

User Response: Correct the group definition line.

0036-137 Blank or tab found in node name at line *line number* **of sequence file** *file name***.**

Explanation: A blank or tab was found in a node name in a sequence file. Node names must not contain blanks or tabs.

User Response: Correct the node name in the sequence file.

0036-138 Group definition line was corrupted for line *line number* **of sequence file** *file name***.**

Explanation: An attempt to add information about a node to a linked list failed. This is either a programming error, or a malloc() error.

User Response: If this is a malloc() error, try the command again.

0036-139 Comma found in group name at line *line number* **of sequence file** *file name***.**

Explanation: A comma was found in a group name in a sequence file. Node names must not contain commas.

User Response: Correct the group name in the sequence file.

0036-140 Blank or tab found in group name at line *line number* **of sequence file** *file name***.**

Explanation: A blank or tab was found in a group name in a sequence file. Group names must not contain blanks or tabs.

User Response: Correct the group name in the sequence file.

0036-141 More than one ":" in line *line number* **of sequence file** *file name***.**

Explanation: A group definition line must only contain one ":", which separates the group name from the group members.

User Response: Correct the sequence file.

0036-142 Sequencing is not allowed on definition lines. A ">" was found in line *line number* **of sequence** *file name***.**

Explanation: A group definition line must not contain a ">", which is used on sequencing lines.

User Response: Correct the sequence file.

0036-143 Parenthesis not allowed in definition lines. Parenthesis found in line *line number* **of sequence file** *file name***.**

Explanation: A group definition line must not contain a parenthesis.

User Response: Correct the sequence file.

0036-144 An illegal node, *node number***, appears at line** *line number* **of sequence file** *file name***.**

Explanation: A non-existent node is in a line of the sequence file.

User Response: Correct the sequence file.

0036-145 Definition is not allowed in sequencing lines. A ":" was found in line *line number* **of sequence file** *file name***.**

Explanation: A group sequencing line must not contain a ":", which is used on group definition lines.

User Response: Correct the sequence file.

0036-146 A sequencing line needs a least 1 sequence in the line. Invalid sequencing line at line *line number* **of sequence** *file name***.**

Explanation: A group sequencing line must at least define the relationship between 2 groups.

User Response: Correct the sequence file.

0036-147 No group specified following ">" at line *line number* **of sequence file** *file name***.**

Explanation: In a group sequencing line there is a ">" without a following group name.

User Response: Correct the sequence file.

0036-148 Missing sequence definition at line *line number* **of sequence file** *file name***.**

Explanation: In a group sequencing line there is a ">" without a following group name.

User Response: Correct the sequence file.

0036-149 Bad format of stanza line *line number* **in sequence file** *file name***.**

Explanation: The line is incorrect.

User Response: Correct the sequence file.

0036-150 No group specified following (at line *line number* **of sequence file** *file name***.**

Explanation: A group name is expected after the (.

User Response: Correct the sequence file.

0036-151 No group specified following comma at line *line number* **of sequence file** *file name***.**

Explanation: A group name is expected after the comma.

User Response: Correct the sequence file.

0036-152 The group *group name* **precedes itself in the sequence line at line** *line number* **of the sequence file** *file name***.**

Explanation: A group name cannot precede itself on a sequence line.

User Response: Correct the sequence file.

0036-153 According to line *line number* **of the sequence file** *file name*, *group name 1* **is to be shut down before** *group name 2*. **However, that relationship is reversed in a previous line.**

Explanation: The relationship between two groups is defined one way in one line of the sequence file, and another way on another

User Response: Correct the sequence file.

0036-154 Unexpectedly ran out of child processes for which to wait.

Explanation: csControl thought it had more child processes for which it had to await termination. However, no more processes exist. This is a programming problem.

User Response: Please contact your customer support center.

0036-155 While waiting for the completion of child processes an unexpected error occurred. The wait() system call failed with errno *error value after wait() system call*.

Explanation: For each subsystem to be informed of node shut down, a process is created to call the subsystem. Also, for each node to be shut down, a process is created to halt the node. While waiting for these processes to terminate, an unexpected failure occurred.

User Response: This condition probably indicates a programming error. Please notify your customer support organization.

0036-156 A child process completed, but csControl has lost information pertaining to the child.

Explanation: For each subsystem to be informed of node shut down, a process is created to call the subsystem. Also, for each node to be shut down, a process is created to halt the node. One of these processes terminated. However, the csControl program has lost information it should have saved about the process.

User Response: This condition indicates a programming error. Please notify your customer support organization.

0036-157 ListCreate() returned NULL, indicating error.

Explanation: Failure to create a linked list.

User Response: If a previous message indicates a problem allocating memory, try the command again. If the problem persists, contact your customer support organization.

0036-158 Failure with System Data Repository (SDR) routine *SDR routine name*. **Failed with return code** *SDR routine return code*.

Explanation: Failure with SDR routine.

User Response: Investigate the cause of the failure of the SDR.

0036-159 An object obtained from the System Data Repository (SDR) in the Node object class does not have a node_number. The object is ignored.

Explanation: Problem with data in Node object class in the System Data Repository (SDR).

User Response: Investigate the information in the Node object class in the SDR.

0036-160 Node *node number* **does not have a reliable_hostname in the Node object class of the System Data Repository (SDR). The object is ignored.**

Explanation: Problem with data in Node object class in the System Data Repository (SDR).

User Response: Investigate the information in the Node object class in the SDR.

0036-161 ListInsert() indicated error.

Explanation: Failure to insert into a linked list.

User Response: If a previous message indicates a problem allocating memory, try the command again. If the problem persists, contact your customer support organization.

0036-162 Could not find any valid objects in the Node object class of the System Data Repository (SDR).

Explanation: The **cshutdown** command determines the valid processor nodes on the system via the SDR. No valid nodes were found.

User Response: Investigate the information in the Node object class in the SDR.

0036-163 Failure with Frame Controller Interface (FCI) routine. *FCI routine name* **failed with return code** *FCI routine return code***.**

Explanation: Failure with FCI routine.

User Response: Investigate the cause of the failure of the FCI.

0036-164 Null pointer passed to routine *routine name***.**

Explanation: This is a programming error.

User Response: Please contact you customer support organization.

0036-165 A child process returned unexpected status. The process returned *errno value returned by child process***.**

Explanation: For each subsystem to be informed of node shut down, a process is created to call the subsystem. Also, for each node to be shut down, a process is created to halt the node. A child returned an unexpected status.

User Response: This condition probably indicates a programming error. Please notify your customer support organization.

0036-166 Processes created to satisfy the cshutdown request have been failing. Try the request again later.

Explanation: For each subsystem to be informed of node shut down, a process is created to call the subsystem. Also, for each node to be shut down, a process is created to halt the node. Child processes have been failing. They may be failing due to a lack of system resources or failure to make network connections.

User Response: Investigate the state of the network and the control workstation. You may retry the request.

0036-167 Aborting due to error of subsystem *subsystem name***. Error code was** *error code***.**

Explanation: The specified subsystem failed, and the -Y flag was not specified. The **cshutdown** request is being aborted.

User Response: Investigate the cause of the subsystem failure.

0036-172 You do not have proper authorization to shutdown all requested nodes. Exiting cshutdown.

Explanation: cshutdown requires root to have issued the **kinit** command specifying a principal name for which there is an entry in the **hardmon** acls file with control authorization for the frame(s) being shutdown.

User Response: As root, issue the **kinit** command specifying a principal name for which there is an entry in the **hardmon** acls file with control authorization for the selected nodes.

0036-173 Hardware Monitor has returned an error. Refer to msg number *msg_number* **for description and action to be taken.**

Explanation: A call to the **hardmon** interface has ended with the error listed.

User Response: Refer to the message number displayed for a description and action to take.

Chapter 41. 0037 - SYSMAN_test Messages

0037-001 Unable to obtain SDR information required to run tests.

Explanation: Essential information, including the node number and system configuration data could not be obtained from the System Data Repository. A preceding error message further identifies the error.

User Response: Perform the recommended installation steps, including the SDR verification test, before running this test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-002 File *file_name* does not exist.

Explanation: This file, which should exist following installation, could not be found.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-003 Directory *directory_name* does not exist.

Explanation: This directory, which should exist following installation, could not be found.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-004 Directory *directory_name* was not exported.

Explanation: No entry was found for the directory in **/etc/exports**.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-005 Required *entry_identifier* entry missing from *file_name*.

Explanation: Following installation and configuration, a required entry in this file with the identifier shown could not be found.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-006 Unwanted *entry_identifier* entry found in *file_name*.

Explanation: Following installation and configuration, an inappropriate entry was found in this file with the identifier shown.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-008 *AIX_printing_command* is not linked to pmswitch, but SP print option is *print_option*.

Explanation: When the SP print option is OPEN or SECURE, the AIX print commands should be linked to pmswitch.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

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0037-009 *AIX_printing_command* **is not linked to pmswitch, but SP print option is** *print_option***.**

Explanation: When the SP print option is not OPEN or SECURE, the AIX print commands should not be linked to pmswitch.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-010 SP print option is SECURE, but pmbec is not setuid.

Explanation: When the SP print option is SECURE, the **pmbec** command must execute with setuid permission.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-011 SP print option is OPEN, but pmbec is setuid.

Explanation: When the SP print option is OPEN, the **pmbec** command does not require setuid permission.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-012 SP print id *print_id* **in pmbe does not match user-supplied value:** *print_id***.**

Explanation: A print id was specified in the site environment data, but the **pmbe** program was not updated to use it.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-013 Error occurred obtaining CW ip addresses SDR returned *return_value***.**

Explanation: An error was reported by the **SDRGetObjects** command.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-014 Control workstation IP addresses in SDR do not match netstat output.

Explanation: Network addresses recorded for the control workstation in the SDR differ from the network interfaces actually configured.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-015 Server .klogin file does not have an entry for client *host_name***.**

Explanation: A server node's **.klogin** file must contain an entry for each client node that it serves, but this one does not.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-016 Control workstation .klogin file does not have an entry for node *host_name*.

Explanation: The control workstation's **.klogin** file must contain an entry for each of the other nodes, but does not.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-017 The nfs group was not activated.

Explanation: The nfs subsystem is not active on this node, but it is required on server nodes.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-018 This node is a /usr client, but /usr is mounted locally.

Explanation: The node has not been properly set up as a /**usr** client.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the node if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-019 /etc/ntp.conf does not contain a *server_or_peer* entry for ntp server at *ip_address*.

Explanation: The /**etc**/**ntp.conf** file does not contain an expected entry for the ntp option that was selected.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-020 /etc/ntp.conf does not contain a *server_or_peer* entry for the control workstation at *ip_address*.

Explanation: The /**etc**/**ntp.conf** file does not contain an expected entry for the ntp option that was selected.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-021 /etc/ntp.conf does not contain a *server_or_peer* entry for boot/install server at *ip_address*.

Explanation: The /etc/ntp.conf file does not contain an expected entry for the ntp option that was selected.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-022 /etc/ntp.conf does not contain a server entry for *127.127.1.10*.

Explanation: The /etc/ntp.conf file does not contain an expected entry for the ntp option that was selected.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-023 /etc/rc.ntp on control workstation contains ntpdate with consensus option.

Explanation: The **/etc/rc.ntp** file should not run **ntpdate** when the `consensus` ntp option was selected.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-024 SMIT stanzas for user management are missing from the ODM.

Explanation: When the user management option is selected, the SMIT stanzas for that facility should be found in the ODM, but were not.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-025 The link from /bin/passwd to sp_passwd is missing.

Explanation: When the user management option is selected and NIS is not used, **/etc/passwd** on the nodes, and on the control workstation if it does not have the master file, should be replaced by a link to the **sp_passwd** file. This was not found to be true.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-026 The SMIT stanzas for SP user management should not be installed in the ODM.

Explanation: When the user management option is not selected, the SMIT stanzas for that facility should not be found in the ODM, but were.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-027 /etc/passwd should not be linked to sp_passwd.

Explanation: When the user management option is not selected and NIS is not used, **/etc/passwd** should not be linked to the **sp_passwd** file, but the link was found to exist.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-028 /u should not be linked when using the automounter.

Explanation: Configuration of the optional automounter support requires that any existing link from **/u** to another directory be removed, but it was not.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-029 The *entry_identifier* entry should not be in *file_name*.

Explanation: An entry for an optional facility was found in the file, when the associated site environment option was not selected.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-030 The *daemon_name* daemon is running, but the *optional_facility* option was not configured.

Explanation: An optional facility was not selected, but a daemon associated with it is running

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-031 The *daemon_name* daemon is not running, but the *optional_facility* option was configured.

Explanation: An optional facility was selected, but a daemon required by it is not running.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-032 The link is missing to the list file for file collection *preinstalled_file_collection_name*.

Explanation: The list file for each file collection should be links to from **/var/sysman/sup/lists**. One of these links does not exist.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-033 The supman user id is not defined in the password file.

Explanation: The file collections option was configured, but the **supman** user is not defined in **/etc/passwd**, as required.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-034 Unable to confirm installation of file collection *predefined file collection name*.

Explanation: The supper where command did not return output indicating that the predefined file collection had been installed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-035 Unable to get *facility_name* information using the *command_issued* command.

Explanation: A simple query-type command was attempted to obtain information from the optionally installed facility, but it returned no data.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-036 This node has attribute has_usr_clients, but no clients were found.

Explanation: This node has the SDR attribute, **has_usr_clients**, but no nodes were found to have a **usr_client_ip** attribute that matches one of my network interfaces.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-037 *directory* **is not exported with a** *root_or_mount* **access list.**

Explanation: The **/etc/exports** file for this node does not have an entry for the directory with the access list shown, which is required.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-038 *node_name* **is not in the** *root_or_mount* **access list for** *directory* **exports.**

Explanation: The **/etc/exports** file has the access list for the directory export, but it does not include the required node name.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-040 The /etc/hosts file does not contain an entry for server *server_host_name***.**

Explanation: The **/etc/hosts** file on each node must contain entries for the node's boot/install server, but it does not on this node.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-041 The .klogin file does not have an entry for control workstation *server_host_name***.**

Explanation: Each node must have root entries in its **.rhost** file for the control workstation's IP addresses, but this one does not.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-042 Accounting directories found not owned by adm.

Explanation: The accounting directories under **/var/adm** must be owned by user and group adm, but one or more are not.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-043 Accounting jobcharge file does not match configured value.

Explanation: The accounting jobcharge file contains a value that does not with that found in the SDR entry for this node.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-044 Required install image *install_image_name* is missing from /usr/sys/inst.images/ssp.

Explanation: A node whose boot response value is install requires this image, but it was not found in the directory for install images on this node (the control workstation or the boot/install server).

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-045 The name of install image *install_image_name* is missing from file: *pathname_of_choices file*.

Explanation: A node whose boot response value is install requires this image, but its name was not found in the netinst user's choices file on this node (the control workstation or the boot/install server).

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-046 Could not locate password file entry for netinst user.

Explanation: The netinst user, which is required for network installation, is missing from the password file.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-047 Root entry not found in .klogin file for host *host_name*.

Explanation: This message is obsolete. No error was found.

User Response: None.

0037-048 File *file_name* requires setuid permission but does not have it.

Explanation: Certain files must be setuid to root in order to function properly.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. To work around, use the **chmod** command to set the user setuid bit. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-101 CMI stanzas contain an unknown object type: *ODM_object_type*.

Explanation: The CMI stanzas contain an object whose type is not valid for SMIT objects

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-102 CMI objects are missing from the ODM database.

Explanation: One or more CMI stanzas are missing from the ODM database.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-201 Directory *directory_name* does not exist.

Explanation: This directory, which should exist following installation, could not be found.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-202 SDRDeleteObjects returned *return_value*, expected return code 0 or 26.

Explanation: The **SDRDeleteObjects -c** command failed

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-203 SDRCreateClass returned *return_value*, expected return code 0.

Explanation: The **SDRCreateClass** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-204 SDRCreateObjects returned *return_value*, expected return code 0.

Explanation: The **SDRCreateObjects** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-205 SDRGetObjects returned *return_value*, expected return code 0.

Explanation: The **SDRGetObjects** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-206 SDRChangeAttrValues returned *return_value*, expected return code 0.

Explanation: The **SDRChangeAttrValues** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-207 SDRChangeAttrValues returned *return_value*, expected return code 0.

Explanation: The **SDRChangeAttrValues** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-208 SDRGetObjects returned *return_value*, expected return code 0.

Explanation: The **SDRGetObjects** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-209 SDRDeleteObjects returned *return_value*, expected return code 0.

Explanation: The **SDRDeleteObjects** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-210 SDRDeleteObjects -c returned *return_value*, expected return code 0.

Explanation: The **SDRDeleteObjects -c** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-212 SDRCreateAttrs -c returned *return_value*, expected return code 0.

Explanation: The **SDRCreateAttrs -c** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-213 Verification failed with *number_of_errors* errors. See *log_file_name*.

Explanation: The SDR_ verification test failed.

User Response: Check the error messages in the log file, taking the action recommended for them.

0037-220 To successfully complete this test, it must be run as root.

Explanation: The root user is assumed to run this test.

User Response: Logon as root before running this test.

0037-221 Directory *name* does not exist.

Explanation: This directory, which should exist following installation, could not be found.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test.

0037-222 No hardmon daemon running.

Explanation: The hardware monitor daemon is not running.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test.

If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-223 No sdrd daemon running.

Explanation: System data repository daemon must be running

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-224 /etc/hmacls file not found.

Explanation: hardmon requires /etc/hmacls.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-225 This host name not found in hmacls file.

Explanation: The host must be found in hmacls file.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-226 spPortDaemon is not hardmon in SP_ports.

Explanation: SDRGetObjects SP_port did not include hardmon as daemon.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-227 This host name not found in SP_ports.

Explanation: This host must be in SP_ports.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-231 spmon -q return code *return_value***, expected 0.**

Explanation: The **spmon** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-232 export failed *return_value***.**

Explanation: The **export** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-233 DEdelete failed *return_value***.**

Explanation: The **DEdelete** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-234 unset failed *return_value***.**

Explanation: The **unset** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-235 Verification failed with *number_of_errors* **errors. See** *log_file_name***.**

Explanation: The **spmon_itest** verification test failed

User Response: Check the error messages in the log file, taking the action recommended for them.

0037-241 Directory *directory_name* **does not exist.**

Explanation: This directory, which should exist following installation, could not be found.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the Parallel System Support Programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-242 No hardmon daemon running.

Explanation: The hardmon is not running, this is neccessary for spmon.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-243 No sdrd daemon running.

Explanation: The sdrd is not running, this is neccessary for spmon.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-244 No Node Objects created.

Explanation: The **SDRGetObjects** command failed. No Node Objects created.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-245 Check hardware, frame *number* **DCD=***value***.**

Explanation: The SDRGetObjects command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-246 Check hardware, frame *number* **CTS=***value***.**

Explanation: The **SDRGetObjects** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-247 Check hardware, frame *number* **controllerResponds=***value***.**

Explanation: The **unset** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-248 Check /etc/hmacls for frame *number***.**

Explanation: The **unset** command failed.

User Response: Review node installation log for error messages. Take recommended corrective action, re-install the system support programs if necessary, and rerun test. If the problem persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

0037-249 Verification failed with *number_of* **errors See** *log_file_name***.**

Explanation: The spmon_ctest verification test failed

User Response: Check the error messages in the log file and take the action recommended for them.

0037-250 hr daemon not running.

Explanation: The hr hostResponds daemon is required for **spmon**.

User Response: Check the error messages in the log file and take the action recommended for them.

0037-251 ccst daemon not running.

Explanation: The ccst heartbeat daemon is required for **spmon**.

User Response: Check the error messages in the log file and take the action recommended for them.

0037-252 The spmon command failed, possibly kerberos ticket expired.

Explanation: Check kerberos authorization and authentication.

User Response: Check the error messages in the log file and take the action recommended for them.

0037-E601 Directory /var/adm/SPlogs does not exist.

Explanation: The **/var/adm/SPlogs** directory does NOT exist

User Response: Create **/var/adm/SPlogs** directory

0037-E602 Communication with *node* **through Switch: Failed.**

Explanation: Primary workstation cannot ping node through SWITCH.

User Response: Refer to *IBM RS/6000 Scalable POWERparallel Systems: Maintenance Information Volume 2*, Service Locations and Procedures, for hardware installation problems. Refer to Chapter 8, “Diagnosing Switch Problems” on page 33 for software installation problems.

0037-E603 Communicate with *node* **through LAN: Failed.**

Explanation: Control workstation cannot ping node through Ethernet or Token ring LAN.

User Response: Refer to *IBM RS/6000 Scalable POWERparallel Systems: Maintenance Information Volume 2*, Service Locations and Procedures, for hardware installation problems. Refer to Chapter 8, “Diagnosing Switch Problems” on page 33 for software installation problems.

0037-E604 /usr/lpp/ssp/css does not installed. Cannot run CSS IVT test.

Explanation: Control workstation does not contain CSS LPP. CSS does not install on switch nodes.

User Response: Install CSS LPP to all nodes.

0037-E605 TBx adapter does not installed on *node*. Skip SWITCH test on *node*.

Explanation: The node doesn't contain special file entry /**dev**/**css0**, indicating that the TBx adapter is not installed or configured on the node.

User Response: Install the TBx adapter and configure it on the target node

0037-E606 CSS_test [-q][-l logfile].

Explanation: If you run **CSS_test** from the command line and enter the wrong flag, it prints the correct command format.

User Response: Enter the command with the correct command format.

Chapter 42. 0038 - Automounter Error Messages

0038-001 Cannot set up Amd directory /etc/amd. Exiting...

Explanation: **amd_config** will set up Amd by copying Amd files from /**usr**/**lpp**/**ssp**/**amd** into /**etc**/**amd**.

User Response: Make sure that the /**etc**/**amd** directory could be created. Also verify that the Amd files in /**usr**/**lpp**/**ssp**/**amd** exist and are readable so that they can be copied into /**etc**/**amd**.

0038-002 Cannot set up /etc/amd/amd-maps directory. Exiting...

Explanation: **amd_config** will create the /**etc**/**amd**/**amd-maps** directory which is used for keeping the Amd maps. It will also copy the default **amd.u** map that is shipped with the Parallel System Support Programs into the **amd-maps** directory.

User Response: Make sure that the **amd-maps** directory could be created. Check file permissions on /**etc**/**amd** and /**etc**/**amd**/**amd-maps** to ensure that the default **amd.u** map could be copied into it.

0038-004 Cannot set up /etc/auto/maps directory. Exiting...

Explanation: The default automounter configuration will create the /**etc**/**auto**/**maps** directory which is used for keeping the Automount maps. It will also copy the default **auto.u** map that is shipped with the Parallel System Support Programs into the **maps** directory.

User Response: Make sure that the **maps** directory could be created. Check file permissions on /**etc**/**auto**/**maps** to ensure that the default **auto.u** map could be copied into it.

0038-005 Cannot set up /etc/auto.master file. Exiting...

Explanation: The default automounter configuration will create the default /**etc**/**auto.master** file which is used for specifying which directories the automounter is to control and their associated map files.

User Response: Make sure that the /**etc**/**auto.master** file can be created. Check file permissions on /**etc** to ensure that the default **auto.master** file can be created.

0038-006 Error found while creating /etc/auto/maps/auto.u map file. Exiting...

Explanation: Errors were found while generating the /**etc**/**auto**/**maps**/**auto.u** automount map file from a previously existing Amd /**etc**/**amd**/**amd-maps**/**amd.u** map file.

User Response: Consult the error message list to determine the cause of the errors. The /**etc**/**auto**/**maps**/**auto.u** map file may have been created with some correct automounter entries. Verify that the information in the automount map file is complete and accurate. You may need to manually convert some of the Amd entries before attempting to configure and start the automounter.

0038-007 Error found while executing *user_exit* customization script

Explanation: The *user_exit* automounter customization script was executed and returned with a non-zero return code.

User Response: Make sure that *user_exit* is executing correctly and is returning the desired results.

0038-008 Cannot execute *file name*. The file does not exist or is not executable.

Explanation: An attempt to execute the *file name* file was made, but the file does not exist or is not executable. This may be caused by an unresolved configuration problem.

User Response: Make sure that the automounter configuration command completed successfully. if you have replaced the default configuration with a customization script but have not replaced the other automounter functions with customization scripts, make sure that all required PSSP automounter configuration is done.

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0038-010 Problem starting the automount daemon.

Explanation: An attempt to start the automount daemon was made but the automount command did not complete successfully.

User Response: Check the automounter log file **/var/adm/SPlogs/auto/auto.log** for messages. Also, check the daemon log file **/var/adm/SPlogs/SPdaemon.log** for messages from the automount daemon. Make sure that the automounter configuration command completed successfully and that the **/etc/auto.master** master map file is correct. Make sure that all automount maps listed in the master map file are correct.

0038-011 The automount daemon is not running. Cannot be refreshed.

Explanation: An attempt to refresh the automount daemon was made but the automount daemon is not currently running. The daemon could not be refreshed.

User Response: Make sure that the automount daemon should be running at this time. Check the automounter log file **/var/adm/SPlogs/auto/auto.log** to see if there is any reason why the automount daemon is not running. Also, check the daemon log file **/var/adm/SPlogs/SPdaemon.log** to see if the automounter daemon reported any errors. Start the automount daemon if necessary.

0038-012 Cannot set up automounter directory /etc/auto. Exiting...

Explanation: amd_config will set up the automounter by copying files from **/usr/lpp/ssp/config/auto** to **/etc/auto**.

User Response: Make sure that the **/etc/auto** directory could be created. Also, verify that the automounter files in **/usr/lpp/ssp/config/auto** exist and are readable so that they can be copied into **/etc/auto**.

0038-013 The file system *file system* is already in use by another automounter. Cannot start the automount daemon.

Explanation: An attempt to start the automount daemon was made but the *file system* file system is already in use by another automounter process.

User Response: Issue the **mount** command to get the process id of the automounter that is controlling the file system. Make sure no directories being controlled by that automounter are currently in use. Stop the automounter according to the recommended procedures for that automounter. Start the automounter daemon either by running **services_config** or directly by issuing the **/etc/auto/startauto** command.

0038-020 Cannot read input file: *file name*

Explanation: An attempt to read the *file name* was made but the file could not be opened for read access.

User Response: Verify that the file exists and that the file access permissions allow the file to be read by this command.

0038-021 Cannot write output file: *file name*

Explanation: An attempt to write to the *file name* file was made but the file could not be opened for write access.

User Response: Make sure the directory and the file access permissions allow the file to be written to by this command.

0038-022 Cannot append to output file: *file name*

Explanation: An attempt to append to the *file name* was made but the file could not be opened for write access.

User Response: Make sure that the directory and file access permissions allow the file to be written to by this command.

0038-023 Cannot process Amd /defaults field: *field*

Explanation: While processing the /**defaults** entry in the Amd map file, a field was encountered that could not be processed by this command. The field will be ignored and the rest of the /**defaults** entry will be processed.

User Response: Review the generated Automount map file and make sure that the field can be safely ignored without affecting the desired behavior of the Automount daemon. You may need to modify the generated Automount map or master map file to produce the desired behavior.

0038-024 *new_value* **does not match previous** *field_name* **value of** *old_value*

Explanation: While processing an Amd map entry, a second *field_name* was encountered and the *new_value* did not match the previous *old_value*. The Amd entry will be ignored and no corresponding Automount entry will be generated. The command will continue processing with the next Amd entry.

User Response: Verify that the input Amd map file entry had been previously created by the **spmkuser** command or the **mkamdent** command. if this Amd entry had been manually created or modified, it may contain fields that could not be successfully processed by this command. Review the generated Automount map file and make sure that the field can be safely omitted without affecting the desired behavior of the Automount daemon. You may need to manually convert the Amd entry and add it to the Automount map file to produce the desired behavior.

0038-025 Cannot process field: *field*

Explanation: While processing an Amd map entry, a *field* was encountered that could not be processed by this command. The Amd entry will be ignored and no corresponding Automount entry will be generated. The command will continue processing with the next Amd entry.

User Response: Verify that the input Amd map file entry had been previously created by the **spmkuser** command or the **mkamdent** command. If this Amd entry had been manually created or modified, it may contain fields that could not be successfully processed by this command. Review the generated Automount map file and make sure that the field can be safely omitted without affecting the desired behavior of the Automount daemon. You may need to manually convert the Amd entry and add it to the Automount map file to produce the desired behavior.

0038-026 Cannot generate an Automount map file entry from the following Amd entry: *Amd_map_entry*

Explanation: While processing an Amd map entry, errors were encountered and an equivalent Automount map entry could not be created. Specific error messages listing the problem fields precede this message. The Amd entry will be ignored and no Automount entry will be generated. The command will continue processing with the next Amd entry.

User Response: Verify that the input Amd map file entry had been previously created by the **spmkuser** command or the **mkamdent** command. If this Amd entry had been manually created or modified, it may contain fields that could not be successfully processed by this command. Review the generated Automount map file and make sure that the field can be safely omitted without affecting the desired behavior of the Automount daemon. You may need to manually convert the Amd entry and add it to the Automount map file to produce the desired behavior.

Chapter 43. 0041 - Remote Command Messages

0041-001 No arguments listed for rsh.

Explanation: The SP2 **rsh** requires arguments. The Usage message is printed along with this message.

User Response: Re-enter the command.

0041-002 Host *host_name* is not registered for Kerberos service.

Explanation: An **rcmd** service rincipal is not defined for the target host. You specified one of the following:

- A target host that does not have the PSSP authenticated services installed and configured
- A network interface (host name) that has not been completely configured (through node customization) in an SP node
- A network interface (on an independent workstation) that was added after authentication services were configured on it.

User Response: This problem may require the attention of the system administrator and may be a user error, since Kerberos authenticated remote commands can only be used between host with PSSP authenticated services installed (**fileset ssp.clients**) and configured (using **setup_authent**). Make sure the adapter information for the new interface has been added to the SDR and the node customized. You can run **setup_authent** on the target workstation, but tickets for remote services on the workstation will have to be re-acquired. If the problem persists, contact the IBM Support Center.

0041-003 No tickets file found. You need to run kinit.

Explanation: The user does not have a ticket required to use authenticated services.

User Response: If you issued either the **rsh**, **rcp**, or the **dsh** command (or any other program that requires you to kinit prior to running it), issue the **kinit** command to obtain a ticket and try running the failing program again. If the message occurred when running a script that obtains a ticket using an **rcmdtgt** command, which failed, contact the IBM Support Center.

0041-004 Kerberos rcmd failed: *error_sentence_from_kerberos_library call*.

Explanation: The remote command failed for the reason listed.

User Response: The system administrator should check the authentication environment, referring to the information for the Kerberos error message.

0041-005 Kerberos rsh or rcp failed: *error_sentence_from_kerberos_library_call*.

Explanation: The Kerberos **krb_recvauth** call failed. Could not get the data to authenticate.

User Response: The system administrator should check that Kerberos authentication is working properly and all principals and keys are in the Kerberos database. If it cannot be corrected, call the IBM Support Center.

0041-006 Remote to remote copies are restricted in SP2.1.

Explanation: The PSSP remote command, **rcp**, has a restriction on remote to remote copying of a file. You cannot issue the command on host A to copy a file on host B to host C.

User Response: Log onto one of the hosts and do a local to remote copy or remote to local copy.

0041-007 kshell/tcp: Unknown service.

Explanation: The kshell service was not found.

User Response: Verify that the kshell entries in the **/etc/services** and **/etc/inetd.c** files exists.

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0041-008 Cannot retrieve host name.

Explanation: **kshd** calls gethostname to retrieve the host name of the host **kshd** is running on for the Kerberos instance name.

User Response: Verify the C subroutine is supported and verify the host has a host name.

Chapter 44. 2125 - Problem Management Messages

2125-103 Unable to subscribe to eventid *event_id* **code** *event_manage_failure_code*.

Explanation: An internal error prevented subscription.

User Response: Try specifying and entering the command again.

2125-104 No subscription found for eventid: *event_id*.

Explanation: Received an event that did not have a subscription.

User Response: Internal error

2125-105 Can't restart session via ha_em_restart_session(): *string_from_event_manager*.

Explanation: See the Event Manager response.

User Response: Correct the Event Manager situation.

2125-106 Can't restart session via ha_em_restart_session(): *string_from_event_manager*.

Explanation: See the Event Manager response.

User Response: Correct the Event Manager situation.

2125-107 Can't get event manager response via ha_em_receive_response(): *string_from_event_manager*.

Explanation: See the Event Manager response.

User Response: Correct the Event Manager situation.

2125-109 ha_em_receive_response() response unexpected: *response_id_from_event_manager*.

Explanation: Unexpected event response type.

User Response: Internal error

2125-110
No response from event manager to subscription requests.

Explanation: An acknowledgment was not received from the Event Manager for subscription.

User Response: Ensure that the Event Manager is running.

2125-111 Can't find command done via pid *pid*.

Explanation: A child signaled an end, but it cannot find the command that was requested.

User Response: Internal error.

2125-112 node_number command failed.

Explanation: The **node_number** command did not return the daemon's node number. The daemon cannot continue.

User Response: Fix the **node_number** command and start the daemon again.

2125-113 spget_syspar command failed.

Explanation: the **spget_syspar** command did not return the daemon's partition. The daemon cannot continue.

User Response: Fix the spget_syspar command and start the daemon again.

2125-114 Unable to find eventid *event_id*.

Explanation: The user has requested an event id *event_id* that cannot be found in the daemon.

User Response: Enter the command again with the correct event id.

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2125-115 Unable to find event *event_handle*.

Explanation: The user requested an event handle that cannot be found in the daemon.

User Response: Enter the command again with the correct event handle.

2125-116 No events for client principal *kerberos_principal*.

Explanation: A client made a request to change the status of an event, but has no events subscribed.

User Response: None.

2125-117 Cannot subscribe to *resource_variable instance_vector predicate*.

Explanation: The subscription failed.

User Response: Enter the command again properly.

2125-118 Cannot load SDR from configuration file.

Explanation: The **pmandloadSDR** program failed.

User Response: Determine the cause of the failure and start **pmandloadSDR** again.

2125-119 Cannot connect ha_rr_init(): *message_from_event_manager*.

Explanation: The **pmand** program cannot connect to the Event Manager as a resource monitor.

User Response: Determine the cause of the failure and start the **pmand** program again.

2125-124 Error response event manager *error_code_1*: *error_code_2*.

Explanation: The **pmand** received the error response as an event.

User Response: Determine the cause of the failure and start the **pmand** command again.

2125-125 Event manager not yet initialized, request ignored.

Explanation: The **pmand** program has not initialized the connections with the Event Manager, and cannot perform the request.

User Response: Determine the cause of the failure in Event Manager and start it again.

2125-300 Cannot find configuration file *file_name*: *explanation*.

Explanation: The file name *file_name* entered could not be found.

User Response: Correct the command and enter it again.

2125-301 SDRCreateClass failed rc: *return_code_from_the_command*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-302 SDRChangeAttrValues failed rc: *return_code_from_the_command*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-304 Must run on control workstation.

Explanation: A record in the input file had an error.

User Response: Correct the input file and issue the command again.

2125-305 SDRGetObjects failed rc: *return_code_from_the_command*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-306 Specified node not found: *node_that_could_not_be_found*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-400 Cannot find configuration.

Explanation: The file name you entered could not be found.

User Response: Correct the command and enter it again.

2125-401 SDRCreateClass failed rc: *return_code_from_the_command*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-402 SDRChangeAttrValues failed rc: *return_code_from_the_command*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-404 Must run on control workstation.

Explanation: A record in the input file had an error.

User Response: Correct the input file and issue the command again.

2125-405 SDRGetObjects failed rc: *return_code_from_the_command*.

Explanation: The SDR command failed.

User Response: Correct the situation with the SDR and try again.

2125-406 Specified node not found: *node_that_could_not_be_found*.

Explanation: A node was specified that could not be resolved in this partition.

User Response: Correct the situation and try again.

2125-407 Required record missing from stanza.

Explanation: The stanza was missing the handle, resource variable, node, instancevector, predicate or principal record.

User Response: Correct the situation with the SDR and try again.

2125-500 Conflicting arguments.

Explanation: Mutually exclusive arguments were given.

User Response: Correct the command and enter it again.

2125-501 Extraneous option.

Explanation: Arguments that are not expected were given.

User Response: Correct the command and enter it again.

2125-502 No action to take specified.

Explanation: No action (subscribe, unsubscribe, deactivate, list specified).

User Response: Correct the command and enter it again.

2125-503 Improper event specification.

Explanation: The event specification had a syntax error.

User Response: Correct the command and enter it again.

2125-504 Missing argument.

Explanation: Not enough arguments were specified to interpret the command.

User Response: Correct the command and enter it again.

2125-506 Missing option.

Explanation: Not enough options were specified to interpret the command.

User Response: Correct the command and enter it again.

2125-980 Cannot determine node number.

Explanation: On the SP, every node has it's node number stored in the ODM at install time. This node number could not be retrieved.

User Response: The node must be installed again.

2125-981 Cannot determine system partition name.

Explanation: The system partition for this node could not be determined. The most likely cause is that the SDR could not be reached.

User Response: Validate that the SDR is running and is reachable.

2125-982 Cannot determine the IP address for system partition *syspar_name***.**

Explanation: The system partition IP address for this node could not be determined. The most likely cause is that the SDR could not be reached.

User Response: Validate that the SDR is running and is reachable.

2125-983 *daemon_file_name* **is not executable.**

Explanation: The daemon file name *daemon_file_name* must be an executable file to allow the subsystem being installed by the named command to operate. The daemon file name *daemon_file_name* may also not exist.

User Response: As root, run **chmod +x***daemon_file_name* and try the command again, or run **installp** to install the subsystem again.

2125-984 The *subsystem_name* **subsystem must be stopped.**

Explanation: The subsystem name *subsystem_name* must be stopped to allow the named command name to operate on it.

User Response: As root, run **stopsrc -s***subsystem_name* and try the command again.

2125-985 Could not add *subsystem_name* **to** *resource_controller*

Explanation: The named command failed in defining subsystem name *subsystem_name* to the resource controller *resource_controller*. If resource controller *resource_controller* is inittab, the mkitab subsystem failed. If the resource controller *resource_controller* is SRC, the mkssys -s subsystem failed.

User Response: Fix the cause of the resource controller commmand failure listed above and try the command again.

2125-986 Cannot load SDR with configuration data.

Explanation: The named command ran the **pmandloadSDR** command, and the **pmandloadSDR** command failed.

User Response: The **pmandloadSDR** command should have provided an error message. Investigate the cause of that error.

Chapter 45. 2500 - Hashed Shared Disk (HSD) Messages

2500-001 Cannot open or access file *file_name***.**

Explanation: The file does not exist or does not have the appropriate permissions.

User Response: Verify that the file exists with the appropriate permissions.

2500-002 Error opening HSD *HSD_name***.**

Explanation: The data striping device (HSD) cannot be opened or it does not exist.

User Response: Use **lshsd** to verify that the file exists.

2500-003 The *ioctl_string* **ioctl() call failed.**

Explanation: The **ioctl** call failed for the specified ioctl.

User Response: See the **errno** to determine the reason for failure.

2500-004 The call to odm_initialize() failed *odmerrno_value*

Explanation: The **ioctl** call to start the odm failed. The odmerrno variable has been set to indicate the error.

User Response: Use the odmerrno value to determine the error.

2500-005 The call to genmajor() failed *conferrno_value***.**

Explanation: The call to **genmajor()** to retrieve the data striping device (HSD) major number failed. The conferrno variable has been set to indicate the error.

User Response: Use the **conferrno** and the **errno** values to determine the reason for failure.

2500-006 Error Unloading the HSD Kernel Extension.

Explanation: The **loadext()** call failed.

User Response: Check the **errno** to determine the reason for failure.

2500-007 The HSD device driver is not loaded.

Explanation: The HSD driver should already be loaded at this point.

User Response: Configure the HSD.

2500-008 The *hsd_command_name* **command passed to the HSD Device Driver failed.**

Explanation: The HSD driver encountered an error condition while executing the specified command.

User Response: See the **errno** to determine the reason for failure.

2500-009 With the -a option, additional parameters are not allowed.

Explanation: The user specified the **-a** option. This means *all* HSDs. Additional parameters are not allowed on the command line.

User Response: Reissue the command with no additional parameters.

2500-010 File *file_name* **not found.**

Explanation: The specified file does not exist.

User Response: The HSD needs to be placed in the SDR. This file will then be created automatically the next time **cfghsd** is called.

2500-011 Definition of HSD *hsd_name* **not found in the file** *hsd_table_pathname***.**

Explanation: The specified HSD could not be found in the HSD_Table file.

User Response: Check that the data in the HSD is correct. Modify the SDR as necessary.

2500-012 Cannot allocate memory for *item***.**

Explanation: The **malloc** call to allocate temporary storage for the item failed.

User Response: This is system problem.

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2500-013 HSD_name *hsdvsd_name* cannot be the same as VSD name.

Explanation: If the HSD and the IBM Virtual Shared Disk both tried to create the same special files in /**dev**, the HSD /**dev** files would overlay the IBM Virtual Shared Disk /**dev** files, rendering both unusable.

User Response: Make up a new HSD name. The recommended naming convention is *hsd.logical_name*. Retry the operation.

2500-014 You have specified a HSD name, *HSD_name*, that does not exist.

Explanation: The method invoked the command for a HSD_name that does not have an entry in the SDR.

User Response: No action required. You do not have a HSD with this name.

2500-017 *method_command* failed on *HSD_name*

Explanation: The method invoked the command for HSD_name, and the command failed for that HSD.

User Response: See the previous error message displayed from the command for details. This message identifies the HSD_name that the previous error message didn't.

2500-021 The repository cannot be accessed. Return code was *return code*.

Explanation: The routine could not access the System Data Repository. The routine halted.

User Response: Refer to Chapter 10, "Diagnosing System Monitor Problems" on page 63 for more information on diagnosing system monitor problems.

2500-022 You have specified an invalid number of arguments.

Explanation: An invalid command format was issued. The routine halted.

User Response: Reenter the command with the correct format.

2500-023 You have specified an invalid flag.

Explanation: A flag passed to the routine was invalid.

User Response: Reenter the command with the correct flag.

2500-024 Issuing the command *SDR_command* gave a return code of *return_code*.

Explanation: The routine passed a command to the System Data Repository which gave a non-zero return code.

User Response: Refer to the Chapter 10, "Diagnosing System Monitor Problems" on page 63 for more information regarding system monitor problems.

2500-025 Virtual Shared Disk *vsd_name* is not found or configured.

Explanation: The VSD *vsd_name* is not defined or configured.

User Response: Check to see if the IBM Virtual Shared Disk is defined and configured.

2500-026 Failed to configure Hashed Shared Disk *hsd_name*.

Explanation: The program failed to configure a HSD.

User Response: Check to see if all underlying IBM Virtual Shared Disks are defined and configured.

2500-031 Error unlinking *device_name*.

Explanation: The HSD special file already exists with a different device number from the specified device number.

User Response: Use **rm** to remove *device_name* from /**dev**.

2500-032 Error loading the HSD kernel extension.

Explanation: The **loadext()** call failed.

User Response: See the **errno** to determine the reason for failure.

2500-033 Error Configuring the HSD Device.

Explanation: The **sysconfig()** call failed.

User Response: See the **errno** to determine the reason for failure.

2500-034 Device already exists.

Explanation: The **sysconfig()** call failed and **errno** is EALREADY. The device is already configured.

User Response: Do not attempt to configure a device that is already configured.

2500-035 *name* **is too long. Length must be less than or equal to 31 characters**

Explanation: The name passed is unacceptable. The length of the name must be less than or equal to 31 characters.

User Response: Correct the name's length and reenter the command.

2500-036 Special Device File *file_name* **already exists, and does not have the proper HSD major number of** *major_number***.**

Explanation: The file the HSD is trying to create already exists for a non-HSD.

User Response: Change the name of the HSD that conflicts with the existing device or remove the existing device file and try the operation again.

2500-037 Can't create Special Device File *file_name***.**

Explanation: The HSD special device file create operation **(mknod)** failed. The reason for the **mknod** failure is also printed.

User Response: Refer to the **mknod** failure message to correct the problem.

2500-050 Invalid Parallelism Value, *parallelism value***.**

Explanation: An invalid parallelism value was passed in. Valid values are:

AIX 3.2.5 Between 1 and 9
AIX 4.1 Between 1 and 64

User Response: Retry the command with a valid parallelism value

2500-060 Invalid HSD command *command***.**

Explanation: The command passed to **dohsd2** was invalid.

User Response: Use the valid command **ucfg**.

2500-070 The -s and -l flags are not compatible.

Explanation: The **-s** and the **-l** flags cannot be used together.

User Response: Reissue the command with only one of these flags.

2500-071 Cannot allocate memory for HSD info. The count of HSDs is *hsd_count***.**

Explanation: The **malloc** call to allocate temporary storage for the HSD information failed.

User Response: Try again specifying the HSD you are interested in.

2500-082 The stripe_size must be a number greater than or equal to 4096 and less than or equal to 128K.

Explanation: A unacceptable value was entered for the stripe size.

User Response: Reenter the command with the correct value.

2500-083 HSD_name *HSD_name* **is already in use.**

Explanation: The name specified already defines a HSD in the SDR.

User Response: Use the **undefhsd** command to delete the entry in the SDR and reenter the **undefhsd** command. Or pick another HSD name.

2500-084 VSD_name *VSD_name* is already used in other HSD.

Explanation: The *VSD_name* specified has been defined in another HSD.

User Response: Select another IBM Virtual Shared Disk which is not used by any HSD.

2500-085 The HSD_name, *HSD_name* cannot be the same as an VSD_name.

Explanation: The HSD and the IBM Virtual Shared Disk both create special device files in /**dev** using the HSD and the IBM Virtual Shared Disk names respectively. Therefore, these names cannot be the same.

User Response: Make up a new name for the HSD. The suggested naming convention is **hsd**.*logical_name*.

2500-086 *name* too long. Length must be less than or equal to 31 characters.

Explanation: The name passed was unacceptable. The length of the name must be less than or equal to 31 characters.

User Response: Correct the name's length and reenter the command.

2500-87 The option must be either protect_lvcb or not_protect_lvcb.

Explanation: You must select one option; **protect_lvcb** or **not_protect_lvcb**.

User Response: Select **protect_lvcb** if you wish to protect the logical volume control block. If you do not wish to protect it, select **not_protect_lvcb**.

2500-089 Entry already in the SDR.

Explanation: The information specified for this command has already been placed in the SDR.

User Response: You do not need to reenter the information; it is already in the SDR.

2500-090 You have specified an VSD name, *VSD_name* that does not exist.

Explanation: The name specified does not have an entry in the SDR.

User Response: Use the **vsdatalst** to get a list of defined IBM Virtual Shared Disks.

2500-091 stripe_size *stripe_size* is not multiple of 4K.

Explanation: The value of the stripe size must be a multiple of 4K.

User Response: Rerun the command using a stripe size that is a multiple of 4K.

2500-092 stripe_size must be between 4K and 128K.

Explanation: The value of the stripe size must be between 4K and 128K.

User Response: Rerun the command using a stripe size between 4K and 128K.

2500-093 Failed to generate hsd minor number *minor_number* for hsd *hsd_name*.

Explanation: If a new minor number is generated for a given HSD, and the return code from the SDR is not zero, an error occurs.

User Response: Check to see if the *minor_number* is a valid integer. If the *minor_number* is a valid integer, the problem is in the SDR. Use **/usr/lpp/ssp/bin/SDRGetObjects -q hsd_minor_number** to verify the minor number in the SDR. If the *minor_number* is not a valid integer, the problem is in **defhsd**. Use **hsdatlst** to verify the minor number in defined HSDs.

2500-094 Bad system class *hsd_minor_number* in SDR.

Explanation: If a new minor number is generated for a given HSD, and the system class *hsd_minor_number* is empty after HSDs were defined, an error occurs.

User Response: Check the SDR database. Use **/usr/lpp/ssp/bin/SDRGetObjects -q hsd_minor_number** to verify the minor number in the SDR.

2500-100 The HSD character special device file *character_device_name* is not found. Have you run cfghsd *hsd_name*?

Explanation: The /**dev**/**r**<*hsdname*> device file does not exist.

User Response: Run **cfghsd** to configure the device.

2500-101 The file /unix was not found at *device_ driver_pathname*.

Explanation: The /**unix** file was not found.

User Response: Use **find** to locate the boot image.

2500-102 Step 1: FAILURE! The write of hsdd to *hsd_name* failed.

Explanation: The write of the /**unix** to the specified HSD failed.

User Response: Check that the HSD exists and has been properly installed and configured.

2500-103 Error: records in = *records_in* records out = *records_out*.

Explanation: The **dd** command failed.

User Response: Check that the HSD has been properly installed and configured.

2500-104 Error: remainder in = *remainder_in* remainder out = *remainder_out*.

Explanation: The **dd** command failed.

User Response: Check that the HSD has been properly installed and configured.

2500-105 Step 2: FAILURE! Bad rc (*return_code*) from dd of HSD to temporary file.

Explanation: The read back of the HSD driver from the HSD failed.

User Response: Check the man page for the **dd** to determine the error.

2500-106 Step 3: FAILURE! Bad rc (*return_code*) from dd of THSDD to temporary file.

Explanation: The read of the /**unix** failed.

User Response: Check the man page for the **dd** to determine the error.

2500-107 Step 4: FAILURE! Bad rc (*return_code*) from diff of temporary files.

Explanation: The diff between what was read back from the HSD and the HSD driver failed.

User Response: Check the man page for **diff** to determine the error.

2500-108 *hsd_name* is not an active hsd. Have you run cfghsd?

Explanation: The parameter to **hsdvts** must be a HSD in the active state.

User Response: Make sure you have defined your HSD; run **cfgvsd** and **startvsd**; and run **lshsd -l** to see that your HSD is in the active state.

2500-116 Check *HSD_table_name* table in the SDR, cannot find the table.

Explanation: Some fields in the table are incorrect.

User Response: Run SMIT to set HSD information.

2500-117 Check *HSD_table_name* table in the SDR, it is an empty table.

Explanation: Some fields in the HSD table are incorrect.

User Response: Run SMIT to set HSD information.

2500-118 Check *HSD_table_name* table in the SDR, undefined field is found.

Explanation: Some fields in the HSD table are incorrect.

User Response: Run SMIT to set HSD information.

2500-119 Failed to create new hsd files, default will be current /usr/lpp/csd/hsdfiles

Explanation: At least one of the new HSD tables is incorrect.

User Response: Run SMIT to set HSD information.

2500-120 Lock file (*file_name*) held too long; I am taking it. You may want to investigate.

Explanation: **hsdreadSDR** uses a lock file which is a directory. **hsdreadSDR** waits about 7 seconds for the lock, then generates this message and continues running. If you see this message after the first **cfghsd** following a reboot, it probably means that the system crashed in the middle of a previous **cfghsd**, leaving behind a lock file. If this is the case, you can ignore the message.

If the message is generated in circumstances other than the first **cfghsd** following a reboot, it may be that another process is running a **cfghsd** and that process is hung. Insure that **/usr/lpp/hsd/hsdfiles** is a writable directory on a writable file system.

User Response: If this is not the first **cfghsd** after a reboot, check to see if another process is running **cfghsd** and if that process is hung.

2500-121 Unable to find and create *hsd_flat_file_directory_name*.

Explanation: The file was not found and the **mkdir** command to create it failed.

User Response: Investigate the **mkdir** failure and fix the problem. If the parent directory is not writable on this node, go to a node where you can write to the directory and make this file a symbolic link to a file system that is writable from the original node.

2500-123 HSD *hsd_name* is configured on node host and cannot be undefined.

Explanation: A HSD cannot be undefined if it is configured on any node.

User Response: Use the **ucfghsd** command for the *hsd_name* on the host to unconfigure the HSD, then enter the **undefhsd** again.

2500-124 Deletion of hsd *hsd_name* from the HSD_Table in the SDR failed with a return code of *return_code*. *hsd_name* and minor number *minor_number* are not undefined.

Explanation: The **SDRDeleteObjects** command failed when trying to undefine the HSD by deleting it from the SDR *HSD_Table* class. The *minor_number* was not deleted from the SDR *HSD_Minor_Number* class.

User Response: To determine how to fix the problem, see the preceding message from the **SDRDeleteObjects**, and then enter the **undefhsd** command again.

2500-125 Some IBM Hashed Shared Disk Devices already exist before operation. Please use lshsd command to check the states.

Explanation: In order to run the **cfghsd** operation on the HSD this HSD must not be configured.

User Response: Use the **lshsd** command to check to see if the HSD has been configured.

2500-126 IBM Hashed Shared Disk Device is not configured.

Explanation: In order to run the **ucfghsd** operation on the HSD this HSD must be configured first.

User Response: Use the **cfghsd** command to configure the HSD, and try the failed command again.

Chapter 46. 2501 - Sysctl Messages

2501-100 *program name*: **Can't get local hostname!**

Explanation: Can't get local *hostname* via **gethostbyname**.

User Response: Check network name service.

2501-101 *program name*: **Out of Memory!**

Explanation: Not enough memory to run program.

User Response: Retry.

2501-102 *program name*: **Unknown cluster** *clustername*.

Explanation: Can't resolve cluster name.

User Response: Re-enter the command properly.

2501-103 *program name*: **Can't connect to multiple servers in socket mode.**

Explanation: User has specified socket mode and more than one host.

User Response: Re-enter the command properly.

2501-104 *program name*: **Can't connect to multiple servers in interactive mode.**

Explanation: User has specified multiple servers and interactive mode.

User Response: Re-enter the command properly.

2501-105 *program name*: **Error reading replay file.**

Explanation: A problem has occurred trying to read the replay file.

User Response: Check replay file permissions.

2501-106 *program name*: **Warning: can't create locking file.**

Explanation: Can't create locking file.

User Response: Check filesystem space and permissions.

2501-107 **Wrong # args: should be** *command* **[-f** *aclfile***]** *principal*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-108 **Maximum number of ACL files checked. Possible loop.**

Explanation: The maximum number of ACL files have been searched.

User Response: Check for an accidental recursive loop in the ACL files.

2501-109 *acl_filename* **Error locking file.**

Explanation: Could not get the required lock on the specified file.

User Response: Wait for the file to become unlocked and retry the operation.

2501-110 **First line of file must be #acl#.**

Explanation: An ACL file specified did not contain a first line of “#acl#”.

User Response: Verify that file is indeed an ACL file; check contents of first line.

2501-111 **Wrong # args: should be** *command* **[-f** *aclfile***] [-p** *principals...***] [-a** *aclfiles...***]**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

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2501-112 *Filename*: **File already exists.**

Explanation: The specified file cannot be created because it already exists.

User Response: Retry the command with an unused file name.

2501-113 *program name*: **Cannot get local network address.**

Explanation: An attempt to get local authentication information failed.

User Response: Diagnose and correct the networking problem.

2501-114 **Wrong # args: should be** *command* **name varName.**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-115 **Can't get mount status.**

Explanation: Sysctl failed to get the mount status of a filesystem.

User Response: Correct the filesystem mount problem and rerun the command.

2501-116 **Can't open mount table.**

Explanation: Sysctl failed to open the filesystem mount table.

User Response: Correct the file system mount table problem and rerun the command.

2501-117 *Character*: **Illegal character in arguments.**

Explanation: A special (illegal) shell character was detected in the arguments of a shell command.

User Response: Re-enter the command without the illegal character.

2501-118 **Wrong # args: should be** *command*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-119 **Can't fork.**

Explanation: The Sysctl client failed to execute the fork() system call.

User Response: This is a system problem. Correct the problem and rerun the command.

2501-120 **Client could not open message catalog.**

Explanation: The Sysctl client could not find the Sysctl message catalog. It expects to find it according to **$NLSPATH/smsysctl.cat** if $LC_MESSAGES is not “C”. It expects to find in in **/usr/lib/nls/msg/C/smsysctl.cat** if $LC_MESSAGES is “C”.

User Response: Verify and correct (if necessary) $LC_MESSAGES (or $LANG). Verify existence of message catalog in required location.

2501-122 *command*: **Insufficient authorization.**

Explanation: The user is not authorized to execute the command.

User Response: If appropriate, authorize the user.

2501-123 **Wrong # args: should be** *command* **-cmd|-class|-var objName callBack.**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-124 **Unknown** *object_type*: *name*.

Explanation: The user has attempted to set the authorization of an unknown object.

User Response: Check spelling of object name. If necessary, first create the object.

2501-125 No authorization for *object_type*: *name*.

Explanation: The user has attempted to get the authorization for an object which has no authorization.

User Response: None.

2501-128 Wrong # args: should be *command* -cmd|class|-var objName.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-129 Invalid *object_type* name: *name*.

Explanation: The user has specified an object which has not been defined.

User Response: Check the spelling of the object name. Check that the object has been defined via the configuration file.

2501-131 *object_name*: Authorization denied.

Explanation: The user is not authorized to access the specified object.

User Response: None.

2501-132 Wrong # args: should be *command* -cmd|-class|-var objName

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-135 Authorization denied.

Explanation: The user is not authorized to execute the command.

User Response: None or arrange for proper authorization.

2501-137 Wrong # args: should be *command* [*aclname*].

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-139 Authorization denied.

Explanation: The user is not authorized to execute the command.

User Response: None or arrange for proper authentication and authorization.

2501-140 Authorization denied.

Explanation: The user is not authorized to execute the command.

User Response: None.

2501-142 Wrong # args: should be *command*

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-144 Wrong # args: should be *command fileId1 fileId2*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-145 Wrong # args: should be *command* message.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-146 Could not detach from server: *error_code*.

Explanation: The fork() system call failed in the Sysctl server.

User Response: Examine the error code.

2501-147 Wrong # args: should be *command* **file.**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-148 Wrong # args: should be *command type name args...*

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-149 *command*: **invalid type:** *name*.

Explanation: An invalid object name was specified for the **create** command.

User Response: Correct the command to specify a valid object.

2501-150 Wrong # args: should be create var *varName varValue varAuth*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-151 Wrong # args: should be create proc *procName procArgs procAuth procBody*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-152 Wrong # args: should be create class *className classFile [classAuth]*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-153 Couldn't read file *filename*: *error_type*.

Explanation: Sysctl server failed to read in the specified class file.

User Response: Check the spelling of the file name. Create the file if necessary.

2501-154 Couldn't stat file *file name*: *error_type*.

Explanation: Sysctl server failed to *stat* the specified class file.

User Response: Check the error returned from the **fstat()** system call.

2501-155 Error in reading file *file name*: *error_type*.

Explanation: Sysctl server failed to read the specified class file.

User Response: Check the error returned from the **read()** system call.

2501-156 *file name*, **[***error line]: interpreter result*

Explanation: An error occurred in the processing of the contents of the class file.

User Response: Correct the error in the class file.

2501-157 Wrong # args: should be create cmd auth *yes|no shellCmd*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-158 Wrong # args: should be *command name args body*.

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-159 Wrong # args: should be *command* **[-f** *file***]** *objtype objName args...*

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-160 Wrong # args: should be *command* **[-f** *file***]** *objtype objName.*

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-161 *file name***:** *error_type***.**

Explanation: The Sysctl server failed to open the specified configuration file.

User Response: Examine the error from the **fopen()** system call.

2501-162 Cannot create new configuration file: *error_type***.**

Explanation: The Sysctl server failed to create the specified configuration file.

User Response: Examine the error from the **fopen()** system call.

2501-163 Cannot write new configuration file: *error_type***.**

Explanation: The Sysctl server failed to write to the specified configuration file.

User Response: Examine the error type.

2501-164 Cannot install new configuration file: *error_type***.**

Explanation: The Sysctl server failed to install the specified configuration file.

User Response: Examine the error type.

2501-165 *command***: Override of initialization procedure not supported on this architecture.**

Explanation: An alternate initialization procedure name for a shared library cannot be supplied on this architecture.

User Response: None.

2501-166 Wrong # args: should be *command file name***.**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Correct the command with the proper number of arguments.

2501-167 Library: *file name* **was already loaded and could not be unloaded.**

Explanation: The Sysctl server failed to unload the specified shared library file.

User Response: None.

2501-168 Could not load library *file name***:** *error_type***.**

Explanation: The Sysctl server failed to load the specified shared library file.

User Response: Check the error type.

2501-169 Could not run loadbind: *error_type***.**

Explanation: The Sysctl server failed to loadbind() the specified shared library.

User Response: Check the error type.

2501-170 Initialization procedure for library *file name* **failed.**

Explanation: The initialization procedure for the shared library failed.

User Response: None.

2501-171 Wrong # args: should be *command file name [initProc]***.**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-172 Invalid library name format: *file name***.**

Explanation: The format of the specified shared library name is incorrect.

User Response: Correct the name format.

2501-173 Library: *file name* **was already loaded and could not be unloaded.**

Explanation: The specified shared file was already loaded and the attempt to unload it failed.

User Response: None.

2501-174 Could not load library *file name***:** *error_type***.**

Explanation: The attempt to load the specified shared library failed.

User Response: Check the error type.

2501-175 Error initializing shared library *file name***:** *error_type***.**

Explanation: The shared library initialization routine failed.

User Response: Check the error type.

2501-176 Initialization procedure for library *file name* **failed.**

Explanation: The shared library initialization routine failed.

User Response: None.

2501-177 Wrong # args: should be *command file name* **[***initProc***].**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-178 Invalid library name format: *file name***.**

Explanation: The format of the specified shared library name is incorrect.

User Response: Correct the name format and re-enter the command.

2501-179 Library: *file name* **was already loaded and could not be unloaded.**

Explanation: The specified shared library file was already loaded and the attempt to unload it failed.

User Response:

2501-180 Could not load library: *file name***:** *error_type***.**

Explanation: The attempt to load the specified shared library failed.

User Response: Check the error type.

2501-181 Error initializing shared library *file name***:** *error_type***.**

Explanation: The shared library initialization routine failed.

User Response: Check the error type.

2501-182 Initialization procedure for library *file name* **failed.**

Explanation: The shared library initialization routine failed.

User Response: None

2501-183 Wrong # args: should be *command* **[***file name* | **all].**

Explanation: User has entered the wrong number of arguments to the specified command.

User Response: Re-enter the command with the correct number of arguments.

2501-184 Library *file name* **is not loaded.**

Explanation: The specified shared library could not be unloaded because it is not loaded.

User Response: Check the file name; reissue if necessary.

2501-185 Could not unload library *file name***:** *error_type***.**

Explanation: The attempt to unload the specified shared library failed.

User Response: Check the error type.

2501-186 Could not unload library *file name*: *error_type*.

Explanation: The attempt to unload the specified shared library failed.

User Response: Check the error type.

2501-187 Could not unload library *file name*: *error_type*.

Explanation: The attempt to unload the specified shared library failed.

User Response: Check the error type.

Chapter 47. 2502 - Authentication Messages

2502-000 kdestroy: No tickets to destroy.

Explanation: You issued the command when there was no ticket cache file. Perhaps the **KRBTKFILE** environment variable is set to the name of a non-existent file.

User Response: Check the setting of the environment variable.

2502-001 kdestroy: Tickets NOT destroyed.

Explanation: An error occurred when the command tried to delete the ticket cache file.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-002 kinit: k_gethostname failed.

Explanation: The command was unable to get the systems hostname.

User Response: Check that the system hostname is properly set by issuing the **hostname** command. If it is returned correctly, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-003 kinit: Bad Kerberos name format.

Explanation: The principal name you entered was longer than 40 characters or contained the characters '.' or '@'.

User Response: Reissue the command, entering a valid name when prompted.

2502-004 kinit: Bad Kerberos instance format.

Explanation: The instance name you entered was longer than 40 characters or contained the characters '.' or '@'.

User Response: Reissue the command, entering a valid instance when prompted. Just press the **Enter** key to enter a null instance name.

2502-005 kinit: Bad Kerberos realm format.

Explanation: The realm name you entered was longer than 40 characters or contained the '@' character.

User Response: Reissue the command, entering a valid realm name when prompted.

2502-006 kinit: krb_get_lrealm failed.

Explanation: The command was unable to identify the local realm.

User Response: Check that the first line of the **/etc/krb.conf** file contains the local realm name. If the file is missing or incorrect, fix it. If not, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-007 klist: Can't find realm of ticket file: *file name*

Explanation: The realm name of the principal who holds the tickets in the ticket cache file being listed cannot be found in the ticket file. The file is probably corrupted, or **KRBTKFILE** is set to the name of a file that is not a ticket cache file.

User Response: You will probably have to reissue the **kinit** command to establish a valid ticket.

2502-009 File error *file name error_message*

Explanation: The server key file could not be opened. To list the contents of the default key file, you must be the root user.

User Response: Take whatever action is appropriate for the specific error indicated by the error text.

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2502-009 klist: Error reading from key file: *error-text*

Explanation: The **read** system call returned an error, when the command tried to obtain the service key information.

User Response: Take whatever action is appropriate for the specific error indicated by the *error-text*.

2502-010 klist: Key file truncated.

Explanation: Attempting to list the service keys in a server key file, the data was found to be incomplete.

User Response: Check that the file specified is a service key file. Try the **ksrvutil list** command as an alternative. If it works, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-011 rcmdtgt: Unable to obtain local hostname.

Explanation: The system returned an error when the command tried to get the local hostname

User Response: gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-012 rcmdtgt: Unable to obtain name of local realm.

Explanation: The command was unable to identify the local realm.

User Response: Check that the first line of the /**etc**/**krb.conf** file contains the local realm name. If the file is missing or incorrect, fix it. If not, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-013 kpasswd: Bad name: *principal-name*

Explanation: You entered a non-existent principal name in reply to a prompt.

User Response: Reissue the command, and enter a correct principal when prompted.

2502-014 kpasswd: Bad instance: *instance-name*

Explanation: You entered a non-existent instance name in reply to a prompt.

User Response: Reissue the command, and enter a correct instance when prompted.

2502-015 kpasswd: Bad realm: *realm-name*

Explanation: You entered a non-existent realm name in reply to a prompt.

User Response: Reissue the command, and enter a correct realm when prompted.

2502-016 kpasswd: Password NOT changed.

Explanation: An error occurred in attempting to change the password. See the preceding error message for more detailed information.

User Response: None

2502-017 kpasswd: Error reading old password.

Explanation: The command could not read the old password from stdin. Perhaps you cancelled the input using Ctrl-C.

User Response: Reissue the command if you wish to try again.

2502-018 kpasswd: Error reading new password, password unchanged.

Explanation: The command could not read the new password from stdin. Perhaps you cancelled the input using Ctrl-C.

User Response: Reissue the command if you wish to try again.

2502-019 ksrvutil: Error reading password.

Explanation: The command could not read the password from stdin. Perhaps you cancelled the input using Ctrl-C.

User Response: Reissue the command if you wish to try again.

2502-020 ksrvutil: Unable to create *file name error-text*

Explanation: The system returned the indicated error when the command tried to create a server key file or a temporary work file.

User Response: Take action appropriate to the specific error indicated.

2502-021 ksrvutil: Failure reading *file name error-text*

Explanation: The system returned the indicated error when the command tried to read a file.

User Response: Take action appropriate to the specific error indicated.

2502-022 ksrvutil: Failure writing *file name error-text*

Explanation: The system returned the indicated error when the command tried to write the file.

User Response: Take action appropriate to the specific error indicated.

2502-023 ksrvutil: Failure closing *file name error-text*

Explanation: The system returned the indicated error when the command tried to close a file. Perhaps there is a file system space problem.

User Response: Take action appropriate to the specific error indicated.

2502-024 ksrvutil: Unable to open *file name* **for append:** *error-text*

Explanation: The system returned the indicated error when the command tried to append to a server key file or a temporary work file.

User Response: Take action appropriate to the specific error indicated.

2502-025 ksrvutil: Unable to revert keyfile: *file name*

Explanation: The command tried to restore the backup copy of the server key file after a failure, but could not.

User Response: Follow the procedures for recreating the server key file.

2502-026 ksrvutil: Failure renaming *workfile* **to** *keyfile***:** *error-text*

Explanation: The system returned the indicated error when the command tried to rename a file.

User Response: Take action appropriate to the specific error indicated.

2502-027 ksrvutil: In-progress srvtab in this file.

Explanation: You attempted to update a server key file while it was locked by another process.

User Response: Wait until other updates are done, then reissue the command.

2502-028 add_principal: Cannot obtain local realm name, use the -r option.

Explanation: The command could not read the local realm name from the authentication configuration file: **/etc/krb.conf**.

User Response: You can circumvent the problem by reissuing the command with the **-r** *realm* option to explicitly name the local realm. However, you should also fix the file to prevent further authentication problems.

2502-029 add_principal: Userid is not in the system password file.

Explanation: The **getpwuid()** system call was unable to return your user login name to the command.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2502-030 add_principal: Cannot get an admin ticket and the -n option was specified

Explanation: You specified with the **-n** flag on the command, that you want to use an existing ticket-granting-ticket for an admin principal, rather than have the command prompt you for a password. No such ticket, could be found.

User Response: Issue the **klist** command to check your tickets. Perhaps you need to set the **KRBTKFILE** environment variable to point to an existing ticket cache file. If no ticket cache file exists, issue the **kinit** command to identify yourself using an admin principal name,

2502-031 add_principal: Cannot read admin password.

Explanation: The command was unable to read the admin password from **stdin**. When an a ticket does not already exist, and when you do not specify the **-n** flag on the command-line, **add_principal** prompts you for the password for the principal named *your-login-name***.admin**

User Response: Enter the correct password when prompted.

2502-032 add_principal: Principal *your-login-name*.admin@*realm-name* does not exist.

Explanation: You attempted to add principals to the authentication database, but you are not defined as an administrator of the database.

User Response: Have an authorized authentication database administrator perform this task, or define an **admin** principal for you.

2502-033 add_principal: Incorrect admin password.

Explanation: The password you entered in reply to the prompt was incorrect.

User Response: Retry the command; enter your correct admin authentication password.

2502-034 add_principal: The file *file name* does not exist

Explanation: You probably misspelled the name of the input file.

User Response: Reissue the command with the correct name.

2502-035 add_principal: Insufficient access to read file *file name*

Explanation: You do not have read access to the input file you named. It could be the wrong file or you are not authorized to access it.

User Response: Reissue the command with the correct file name, if wrong. Otherwise, have the file owner authorize you to access it.

2502-036 add_principal: Error opening file *file name*

Explanation: The command could not open the input file you specified to read the principal names and passwords.

User Response: Retry the command with the correct file.

2502-037 add_principal: *principal-name* already exists in database.

Explanation: The input file you used contained the name of an already-defined principal. The request to add it again is ignored.

User Response: None.

2502-038 add_principal: *principal-name* not added to database, error setting password

Explanation: The authentication database administration server could not set the password for the principal. You may not be properly authorized in the administration servers access control list. In order to add principals, your an entry of the form *your-login-name***.admin** must be in the file **/var/kerberos/database/admin_acl.add** on the primary server.

User Response: Check the access control list for a missing or misspelled entry. If wrong, correct it and reissue the failing command.

2502-039 add_principal: *principal-name* **not added, realm name cannot be changed.**

Explanation: The realm name you specified with the **-r** option, or the local realm name if you omitted the option, is different than a realm name that is included explictly in the name of a principal to be added. The command can add principals to only one realm at a time.

User Response: Correct the realm name, if it is incorrectly specified on the command line or in the file. If you need to add principals to different realms, create separate files and issue the **add_principal** command once for each realm.

2502-040 add_principal: Null passwords are not allowed

Explanation: The command found an principal listed in the input file without a password.

User Response: Each principal to be added must be assigned an initial password. Correct the input file and reissue the command.

2502-041 You aren't in the password file. Who are you?

Explanation: The command could not verify your identity as an AIX user.

User Response: Check for corrupted system files.

2502-042 Error reading admin password.

Explanation: The command was unable to read your admin password from stdin.

User Response: Report this as a system problem through your local problem reporting procedures.

2502-043 Error reading password; password unchanged.

Explanation: The command was unable to read the new password from stdin.

User Response: Report this as a system problem through your local problem reporting procedures.

2502-044 Principal *principal* **does not exist.**

Explanation: The principal name you specified was not found in the authentication database. You may have incorrectly specified the name.

User Response: If you misspelled the principal or realm, retry the command. Otherwise, use the **kdb_util** dump command to determine the content of the database.

2502-045 Error reading password; *principal* **not added.**

Explanation: The command was unable to read the new password from stdin.

User Response: Report this as a system problem through your local problem reporting procedures.

2502-046 Principal already exists.

Explanation: The principal name you specified is already in the authentication database. You may have incorrectly specified the principal or realm.

User Response: If you misspelled the principal or realm, retry the command. Otherwise, use the **kdb_util** dump command to determine the content of the database.

2502-047 Incorrect admin password.

Explanation: You specified the wrong password for your admin instance.

User Response: Retry the command, entering the correct password when prompted.

Chapter 48. 2503 - Kerberos Messages

2503-000 Could not read master key.

Explanation: The command attempted to read the Kerberos master key, but failed. Some commands prompt you to enter the master key manually. Others attempt to read the cached master key from the /**.k** file.

User Response: If you were prompted for the key, retry the command. If failure still occurs, follow local error reporting procedures. If the command could not get the key from the /**.k** file, create that file again by issuing the **kstash** command.

2503-001 Could not get local realm.

Explanation: The local realm name is required. It could not be read from the /**etc**/**krb.conf** file.

User Response: Check the **krb.conf** file for the local realm name in the first line. Fix the file using an editor or use **rcp** or **ftp** to obtain a copy of the correct file from another host in your SP system.

2503-002 bind() error *error_text*

Explanation: The bind system call failed, attempting to bind the socket. Kerberos daemon <command> failed to initialize because it could not bind its socket to the port for the required service: for the kerberos daemon, the "kerberos4" service using **udp;** for **kadmind,** the "kerberos_master" service using **tcp;** or for **kpropd,** the "krb_prop" service using tcp. If these are not defined in the /**etc**/**services** file, Kerberos uses ports 750, 751, and 754 respectively.

User Response: If you have other applications that use these default Kerberos 4 port numbers, select other unused port numbers between 0 and 1023, and add appropriate entries to the /**etc**/**services** file.

2503-003 fork() error: *error_text*

Explanation: The Kerberos daemon <command> was unable to fork a child process. It may fail to initialize or may be unable to process a client request, once initialized.

User Response: The system probably has too many processes running, perhaps due to a spawning loop. Use the **ps** command to identify the runaway process and kill it. Then kill the Kerberos daemon process to allow **init** to spawn it again.

2503-004 accept() error: *error_text*

Explanation: The **kadmind** or **kpropd** daemon failed to initialize bacause the TCP/IP accept function failed. The error is explained further by the error text in the message.

User Response: Take appropriate corrective action based on the particular error reported in the message. If daemon cannot be started, follow your local error reporting procedures.

2503-005 malloc() No memory.

Explanation: The command could not complete because memory could not be allocated by the system. Because small memory amounts are involved, there may be a memory leak that has critically affected system operation.

User Response: Follow your local error reporting procedures.

2503-006 Invalid flag: *flag*

Explanation: You issued the **kdb_edit** or **kprop** command using an invalid option flag.

User Response: Reissue the command using the proper syntax. If you have correctly followed the required syntax, follow your local problem reporting procedures.

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2503-007 Could not open database: *error_text*

Explanation: The **kerberos** or **kadmind** daemon could not open the authentication database files. The particular error condition is further explained in the message text.

User Response: Take appropriate recovery action based on the particular error, killing the failing daemon if necessary and restarting. If the database is damaged or has been deleted, you will have to recreate it using the **setup_authent** command. If you are unable to recover, follow your local problem reporting procedures.

2503-008 open() error: *error_text*

Explanation: The command failed because it must read or write this file, and it could not be opened. The message text includes more information about the particular problem encountered.

User Response: Take appropriate recovery action based on the particular error, then retry the failing command or kill and restart the daemon. If you are unable to recover, follow your local problem reporting procedures.

2503-009 Error on file *file name error_text*

Explanation: A file could not be accessed by the command, and the message indicates why.

User Response: Take appropriate recovery action based on the particular error, then retry the failing command. If you are unable to recover, follow your local problem reporting procedures.

2503-010 gethostname() error: *error_text*

Explanation: The **kerberos** daemon, the **kpropd** daemon, or the **kprop** command was unable to obtain from the AIX system the local hostname.

User Response: Retry the failing command. If you are unable to recover, follow your local problem reporting procedures.

2503-011 getsockname() *error_text*

Explanation: The **kprop** command or the **kpropd** daemon could not obtain from TCP/IP the tuple describing its socket connection to use in performing mutual authentication.

User Response: Retry the failing command. If you are unable to recover, follow your local problem reporting procedures.

2503-012 getsockname() returned wrong length data.

Explanation: The **kprop** command or the **kpropd** daemon obtained from TCP/IP socket information that had an incorrect length.

User Response: Retry the failing command. If you are unable to recover, follow your local problem reporting procedures.

2503-013 fcntl() lock error: *file name error_text*

Explanation: The **kprop** command or the **kpropd** daemon could not lock the authentication database. Additional details are displayed in the message text.

User Response: Retry the failing command. If you are unable to recover, follow your local problem reporting procedures.

2503-014 fcntl() unlock error: *file name error_text*

Explanation: The **kprop** command or the **kpropd** daemon could not unlock the authentication database. Additional details are displayed in the message text.

User Response: Retry the failing command. If you are unable to recover, follow your local problem reporting procedures.

2503-015 write() error: *file name error_text*

Explanation: The file could not be written, and further information is included in the text. If the command is **kpropd,** the file is the local copy of the encrypted database data received from the primary server. For **ext_srvtab,** the file is the <name>-new-srvtab file. For **kstash,** it is the /**.k** master key cache file.

User Response: Take appropriate action based on the error condition reported. If unable

to recover, follow local error reporting procedures.

2503-016 socket() error: *error_text*

Explanation: The **kprop** command or one of the Kerberos daemons was unable to establish a socket interface. The particular error condition is noted in the text.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local error reporting procedures.

2503-017 stat() error: *file name error_text*

Explanation: The command failed, because it could not obtain information about a required file. The particular error condition is noted in the text.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local error reporting procedures.

2503-050 Bad instance name: *instance_name*.

Explanation: An instance name specified on the command line is syntactically incorrect. Instance names must be less than 40 characters and may not contain a '.' or '@' character.

User Response: If you entered the command from the command line, retry specifying a correct instance name. If the command was invoked by another PSSP administration command, follow local reporting procedures.

2503-051 Too many principals found for *instance_name*.

Explanation: The command found more than 40 principals defined in the authentication database with a single instance specified on the command line. The command is continuing to create a **srvtab** file containing the first 40 entries only.

User Response: Check that the instance names specified on the command are correct. If necessary, use the **kdb_util dump** command to inspect the database. Try the command again if an incorrect instance was used. If that fails or if the database appears to be incorrect, follow local reporting procedures.

2503-100 reading data: *error_text*.

Explanation: The **kadmind** daemon encountered an error reading a request on the socket from a client program. The text indicates the nature of the failure.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-101 : error *error_text*

Explanation: An error occurred setting up the network interface or receiving an incoming request. The text explains the error condition.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-102 select() : *error_text*

Explanation: The **select** system call invoked by the **kadmind** daemon failed. The type of error is indicated by the error text.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-103 setsockopt() keepalive : errno=*errno*.

Explanation: The **kadmind** daemon failed while attempting to set up its network interface as indicated by the error message.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-104 No service *service_name instance*

Explanation: The **kadmind** daemon found that a required service was not defined in the authentication database. The required service was predefined when the authentication database was created. The database is corrupted, or the entry was inadvertantly deleted instead of another.

User Response: If you have a backup of the database created with **kdb_util dump** you can

use that backup to rebuild it. Otherwise you will have to recreate your authentication environment by re-running **setup_authent.**

2503-105 Short read: *expected_length* **vs** *length_read***.**

Explanation: The request from the client read on the socket was the wrong length.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-106 processing request: *error_text***.**

Explanation: The client request was passed to a processing routine which was not able to complete it successfully. The error text explains the error further.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-107 writing data length: *error_text***.**

Explanation: A socket write failed, sending the output data length to the client. The error text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-108 writing data: *error_text***.**

Explanation: A socket write failed, sending the output data to the client. The error text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-109 Child *pid* **termsig** *signal_number* **coredump** *dump* **retcode** *_code***.**

Explanation: A child process terminated while processing a client request. The reason for the termination is indicated by the message.

User Response: Follow local reporting procedures.

2503-110 Child *pid* **not in list: termsig** *signal_number* **coredump** *dump* **retcode** *_code***.**

Explanation: A program error occurred handling termination of a child process.

User Response: Follow local reporting procedures.

2503-111 Error reading data length: *error_text***.**

Explanation: A socket read failed, reading the input data length from the client.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-112 Read truncated data length: *length***.**

Explanation: A socket read failed, reading the input data from the client.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-200 Database could not be deleted at *file name* **:** *_text***.**

Explanation: An **unlink** system call failed, attempting to delete the database files.

User Response: Retry the command. If failure persists, follow local reporting procedures.

2503-300 Kerberos error on default value lookup; *number_of_values* **found.**

Explanation: More than one entry was found in the authentication database for the default principal, containing default attribute values for **kdb_edit.**. Perhaps an entry was inadvertantly replicated when editing a database dump from **kdb_util dump.**

User Response: Delete all entries for a principal named default, except the one created at database creation. Load the database again using **kdb_util load.**.

2503-301 The date is invalid.

Explanation: You entered an expiration date in the wrong format. The correct format was used to display the default value in brackets [ ].

User Response: Enter a date in the same format, or press enter to accept the default.

2503-302 The ticket lifetime is invalid; choose 0-255.

Explanation: You entered a ticket lifetime value that was not an integer between 0 and 255. For an explanation of how the possible integer values map to actual lifetime intervals, see *IBM Parallel System Support Programs for AIX: Administration Guide*.

User Response: Enter a value from 0 to 255 that corresponds to the maximum lifetime you want this principal's tickets to remain valid.

2503-303 The attributes value is invalid; choose 0-65535.

Explanation: You entered a value outside the range allowed.

User Response: Select the default value. Attributes are unused.

2503-304 Error updating kerberos database.

Explanation: The database could not be updated with your changes. Perhaps the /**var** file system is full.

User Response: Check for file system problems. If unable to correct the problem, follow local reporting procedures.

2503-305 Wild-card names are not supported.

Explanation: You must specify a single principal by name and instance.

User Response: Re-enter the name or instance you want to use, as required.

2503-306 Signal caught, sig = *signal-number,* **code =** *-code,* **old pc =** *location***.**

Explanation: The command was terminated by a signal as indicated.

User Response: If the signal was not caused intentionally by user action, follow local problem reporting procedures.

2503-400 Could not create database: *error_text***.**

Explanation: The authentication database could not be created. The error text indicates the reason for the failure.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-401 Could not read realm name.

Explanation: An error prevented the program from reading the realm name from stdin.

User Response: Retry the failing command. If it still fails, follow local reporting procedures.

2503-402 A realm name is required.

Explanation: You did not enter a realm name as required.

User Response: Try the command again and supply a realm name.

2503-403 *realm_name* **is an invalid realm name.**

Explanation: The realm name you entered contained a '@' character or was not less than 40 characters in length.

User Response: Try the command again, supplying a properly formed realm name.

2503-404 Could not initialize database.

Explanation: The program could not add the predefined principals to the database.

User Response: Try the failing command again. It it still fails, follow local reporting procedures.

2503-500 *operation* **is an invalid operation.**

Explanation: The operation you requested is not one of:

- **load**
- **dump.**
- **slave_dump**
- **new_master_key**

User Response: Try the command again, specifying a correct operation.

2503-501 **Could not create temp database** *file name error_text***.**

Explanation: A load request failed, because the new copy of the database could not be created. The error text indicates the reason for the failure. One possible cause is a full /**var** file system.

User Response: Take appropriate action based on the condition reported. If unable to recover, follow local reporting procedures.

2503-502 **Could not store** *name.instance error-text* **load aborted.**

Explanation: While loading entries from the ascii dump file into the new database, the principal shown could not be added to the database. The text indicates the reason for the failure. One possible cause is a full /**var** file system.

User Response: Take appropriate action based on the condition reported. If unable to recover, follow local reporting procedures.

2503-503 **Could not rename database:** *error-text*

Explanation: The newly loaded database could not be renamed from its temporary name to the authentication database name.

User Response: Follow local reporting procedures.

2503-504 **Could not get new master key.**

Explanation: When changing the master key, the command could not read the new key from stdin.

User Response: Retry the failing command. If it still fails, follow local reporting procedures.

2503-505 **On master key lookup;** *number_of_matches* **found.**

Explanation: More than one entry was found in the authentication database for the **M.K** principal, representing the master admininistive role. Perhaps an entry was inadvertantly replicated when editing a database dump from **kdb_util dump.**.

User Response: Delete all entries for a principal named **M.K,** except one created by **db_creation.**. Reload the database using **kdb_util load.**

2503-506 **The master key does not match the key in the database.**

Explanation: The old master key you entered from stdin or read from the /**.k** file is not the one in which the database is encrypted. Your database may have been corrupted or loaded from an old dump file. Or the /**.k** file could have been corrupted. You may have previously changed the master password but failed to store the new master key with **kstash.**

User Response: If you entered the wrong password, retry the command and enter it correctly. If you cannot reconcile a /**.k** file and database that have different passwords, you will have to rebuild your authentication database using **setup_authent.**

2503-600 **The pause interval must be between 5 and 3600 seconds.**

Explanation: You modified the **inittab** entry from the **kerberos** daemon or started it from the command line, but entered an invalid value for the number of seconds the daemon will pause on termination.

User Response: Retry the command using a valid value or use the default.

2503-601 The maximum age must be from one hour to three days, in seconds

Explanation: You modified the **inittab** entry from the **kerberos** daemon or started it from the command line, but entered an invalid value for the number of seconds the daemon will have allowed since the last database update.

User Response: You should use this option only for secondary (slave) servers. Try the command again using a valid value or use the default. The default for secondary servers is one day.

2503-602 Principal *name.instance* **expired at** *expiration_time***.**

Explanation: A service principal for which a ticket was requested has expired. Either the system clock is wrong, or the principal was created or modified to expire before the current time.

User Response: Check the system clock for an incorrect setting. Use **kdb_edit** to change the expiration date of the principal to a future date.

2503-603 setsockopt (SO_REUSEADDR): *error-text*

Explanation: The **setsockopt** request by the **kerberos** daemon failed. The text indicates the reason for the failure.

User Response: Take appropriate action based on the condition reported. If unable to recover, follow local reporting procedures.

2503-604 Cannot verify master key.

Explanation: The master key obtained from the /**.k** file (or from stdin if you started the daemon from the command line with the **-m** flag) is not the one in which the database is encrypted. Your database may have been corrupted or loaded from an old dump file. Or the /**.k** file could have been corrupted. You may have previously changed the master password but failed to store the new master key with **kstash.**

User Response: If you entered the wrong password, retry the command and enter it correctly. If you cannot reconcile a /**.k** file and database that have different passwords, you will have to rebuild your authentication database using **setup_authent.**

2503-605 Ticket granting ticket service unknown.

Explanation: No entry was found in the authentication database for the **krbtgt** service principal, representing the ticket-granting-service. Perhaps the entry was inadvertantly deleted when editing a database dump from **kdb_util dump.**

User Response: Reload the database using **kdb_util** load if you have a valid backup dump file. If not, you will have to rebuild your authentication database using **setup_authent.**

2503-606 Protocol version mismatch: KRB=*version_expected* **request=***version_received***.**

Explanation: You are using a client executable, such as **kinit,** which was compiled using a different level of Kerberos than that used to compile the SP authentication server.

User Response: Change your PATH so the correct executable is used.

2503-607 Realm *realm_name* **is unknown; host** *hostname* **request failed.**

Explanation: A client requested credentials for a realm that is not served by this authentication server. The most likely cause is an incorrect realm name in the client system's /**etc/krb.conf** file.

User Response: Copy the file from the primary server system to the client system and try the failing request again.

2503-608 Unknown message type: *message_type* **from** *hostname* **port** *port_number***.**

Explanation: A client request contained an invalid encoding of the request type. The message indicates the source of the erroneous request. The message could reflect an attempt to spoof the authentication server, or the use of client software based on the wrong level of Kerberos.

User Response: Investigate the failing environment on the client side, to determine the program that was executed, and take appropriate action.

2503-609 The database is currently being updated.

Explanation: The **kerberos** daemon attempted to check the age of the database, and found the age to be zero, indicating that the age cannot be determined. The daemon should be killed and restarted after the update completes.

User Response: When **kprop** indicates completion of the update, kill the **kerberos** daemon to allow it to be respawned by **init** or restarted manually.

2503-610 The database is out of date.

Explanation: The database was found to be older than the allowed age limit. The **kerberos** daemon cannot be started until the next update takes place.

User Response: Force the primary to propgate the database by invoking the command /**usr/kerberos/etc/push-kprop.** When the update completes, kill the daemon to allow it to be respawned by **init** or restart it manually.

2503-611 The database is unavailable.

Explanation: The request could not be completed, because the principal could not be looked up in the database.

User Response: Retry the failing command. It it still fails, follow local reporting procedures.

2503-612 Principal *principal_name.instance* **is unknown.**

Explanation: No entry was found in the authentication database for the application service principal, for which a ticket was requested. Perhaps the entry was inadvertantly deleted when editing a database dump from **kdb_util** dump.

User Response: Load the database again using **kdb_util** load if you have a valid backup dump file. If not, you can use the **kadmin** and **ksrvutil** commands to create the missing principal again.

2503-613 Principal *principal_name.instance* **is not unique.**

Explanation: More than one entry was found in the authentication database for the service principal, for which a ticket was requested. Perhaps an entry was inadvertantly replicated when editing a database dump from **kdb_util dump.**

User Response: Delete any duplicate entries for the principal, and reload the database using **kdb_util load.**

2503-614 Principal *principal_name.instance* **has a null key.**

Explanation: No key was found in the database for the named principal.

User Response: Follow local reporting procedures.

2503-615 Wrong key version, KRB = *expected_version* *principal_name.instance* **=** *actual_version***.**

Explanation: The master key under which the principal's database entry was last modified or created is different than the current master key. The database is corrupted, at least with respect to this entry.

User Response: Delete the database entry for this principal and re-create it using **kdb_edit** or **kadmin.** If it is a service principal, replace the key file using the steps described in Chapter 6, “Diagnosing Authentication Problems” on page 21.

2503-616 recvfrom() : *error-text*

Explanation: An error occurred receiving a client request on the socket interface. The error text indicates the reason for the failure.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-700 *file name* **is more recent than** *ok_filename***.**

Explanation: Either a **kdb_util slave_dump** command was not executed prior to invoking **kprop,** or we lost a race condition between two instances of **kprop** to propogate the current database to secondary servers.

User Response: In the first case, use **push-kprop** instead of **kprop** to initiate database propogation. In the second case, check that the other invocation of **kprop** (perhaps by **cron)** completed successfully.

2503-701 Cannot read slave host file *file name***.**

Explanation: The slave list file, containing the hostnames of the secondary servers, could not be processed. A preceding message indicates the reason for the failure.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-702 Propagation failed.

Explanation: Propogation to at least one of the secondary servers did not complete. Another message indicates the actual problems that was detected.

User Response: Take appropriate action based on the error condition reported. If unable to recover, follow local reporting procedures.

2503-703 Host *hostname* **connect() :** *error-text*

Explanation: The **kprop** command could not establish a socket connection with the **kpropd** daemon on the indicated host. The text provides additonal information about the error. The daemon may not be running, the system may be down, or there may be network problems.

User Response: Take appropriate action based on the condition reported. If unable to recover, follow local reporting procedures.

2503-704 Host *hostname* **write (version) :** *error-text*

Explanation: A socket write failed, sending the protocol version number to the **kpropd** daemon at the indicated host. The error text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-705 Host *hostname* **write (transfer mode) :** *error-text*

Explanation: A socket write failed, sending the protocol transfer mode to the **kpropd** daemon at the indicated host. The error text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-706 Cannot make key schedule for *hostname***.**

Explanation: The session key shared by **kprop** and **kpropd** violates DES rules: it has bad DES parity or is determined to be a weak key. This is a network data integrity problem or a Kerberos software problem.

User Response: Follow local reporting procedures.

2503-707 Input file read : *error-text*

Explanation: The **kprop** command could not read the input file containing the dumped database. You may have incorrectly specified the file name.

User Response: Verify that the command arguments were specified correctly. If not, retry the command. Otherwise follow local reporting procedures.

2503-708 Host *hostname* **krb_mk_priv() failed.**

Explanation: **kprop** could not build an encrypted packet containing its credentials and a database record to send to **kpropd.** This is probably the result of a Kerberos software error.

User Response: Follow local reporting procedures.

2503-709 Host *hostname* **write() :** *error-text*

Explanation: A socket write failed, sending authentication database data to the **kpropd** daemon at the indicated host. The error text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-710 Cannot open slave host file, *hostname***.**

Explanation: The **slavelist** file, containing the hostnames of the secondary servers, could not be opened. You may have specified the file name incorrectly.

User Response: Retry the command with the correct arguments. If the **slavelist** file has disappeared, it can be re-created using an editor, putting the fully qualified hostname of each secondary server on a separate line.

2503-711 Host name in *file name* **is longer than** *limit* **characters.**

Explanation: The line read from the **slavelist** file was longer than the limit on the length of a hostname. Perhaps you specified the wrong file or the file has been overlaid.

User Response: If the **slavelist** file contains invalid information, it can be recreated using an editor, putting the fully qualified hostname of each secondary server on a separate line. Then retry the command.

2503-712 Unknown host *hostname* **in file name.**

Explanation: Hostname resolution failed for the indicated name read from the **slavelist** file. The name in the file may be incorrect or your name service may be unavailable.

User Response: Check the validity of the file content and the availability of your name server, taking appropriate corrective action, then retry **kprop.**

2503-713 No memory reading host list from *file name***.**

Explanation: **kprop** was unable to allocate memory to create a list of secondary services. This is probably symptomatic of a serious system problem, such as a major memory leak.

User Response: Follow local reporting procedures.

2503-800 Failed to reverse-resolve connection *network address* **(reason** *h_errno***).**

Explanation: The **kpropd** daemon detected an on a **gethostbyaddr** system call. The meaning of the various **h_errno** values is described in **netdb.h.**

User Response: Check that your name service is available, and for other possible networking errors, based on the **h_errno** value. If you cannot correct the problem, follow local reporting procedures.

2503-801 creat() : *error_text*

Explanation: The **kpropd** daemon could not open a temporay file to receive the authentication database dump from **kprop.** The error text indicates the nature of the problem. One cause might be a full file system.

User Response: Take appropriate action based on the condition reported. If unable to recover, follow local reporting procedures.

2503-802 Cannot read kprop version string: *error_text*

Explanation: A socket read failed, receiving the protocol version number from the **kprop** command at the primary server host. The text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-803 Unsupported kprop version: *version_number***.**

Explanation: The **kprop** command and the **kpropd** daemon are not using the same level of Kerberos protocol. One of the executables was not supplied as part of the SP authentication service, or has a software error.

User Response: Replace the **kprop** command or **kpropd** daemon with the SP version, if one is not. Otherwise, follow local reporting procedures.

2503-804 Cannot read transfer mode: *error_text***.**

Explanation: A socket read failed, receiving the protocol transfer mode from the **kprop** command at the primary server host. The text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-805 Authorization denied.

Explanation: A propogation request was received that was not from the **rcmd** service in the local realm. **kprop** may have been invoked from outside the local realm.

User Response: Check your procedures for database propogation, including your **cron** entries, for an error and invoke **kprop** only from the local realm's primary (admin) server host.

2503-806 kprop request from non-admin host; rejected.

Explanation: A propogation request was received that was not from the primary server for the local realm. It may have come from a secondary server.

User Response: Check your procedures for database propogation, including your **cron** entries, for an error and invoke **kprop** only from the local realm's primary (admin) server host.

2503-807 Invalid transfer mode *transfer_mode***.**

Explanation: This is a Kerberos software error.

User Response: Follow local reporting procedures.

2503-808 Non-private transfers are not supported.

Explanation: This is a Kerberos software error.

User Response: Follow local reporting procedures.

2503-809 Length *data_length* **does not match checksum** *check_sum***.**

Explanation: This is a network data integrity problem or a Kerberos software error.

User Response: Follow local reporting procedures.

2503-810 rename() : *error_text***.**

Explanation: The **kpropd** daemon could not rename the temporary file containing the database dump received from the primary server. The error text indicates the nature of the error.

User Response: Take appropriate action based on the condition reported. If unable to recover, follow local reporting procedures.

2503-811 Could not load database.

Explanation: The **kdb_util load** command could not be executed to re-create the database files from the transmitted data. One possible cause is a full /**var** file system.

User Response: Check **kdb_util** messages for additional information, or other indications of file system problems.

2503-812 Cannot make key schedule.

Explanation: The session key shared by **kprop** and **kpropd** violates DES rules: it has bad "DES parity" or is determined to be a weak key. This is a network data integrity problem or a Kerberos software problem.

User Response: Follow local reporting procedures.

2503-813 read() : *error_text*

Explanation: A socket read failed, receiving authentication database data from the **kprop** command at the primary server host. The error text provides additional information about the error.

User Response: Check for networking problems. If failure persists, follow local reporting procedures.

2503-814 Read length *data_length* **is more than buffer size** *buffer_size***.**

Explanation: This is a network data integrity problem or a Kerberos software error.

User Response: Follow local reporting procedures.

2503-900 Kerberos on master key lookup, *count* **found.**

Explanation: Either no entry or more than one entry was found in the authentication database for the predefined **K.M** principal. The entry may have been inadvertantly deleted or replicated when editing a database dump from **kdb_util dump.**

User Response: If count is greater than one, delete all but one entry, and reload the database on the primary server. If the count is zero, and you have a valid backup of the database on the primary server, use the backup copy to restore it. Otherwise you will have to recreate your authentication environment by re-running **setup_authent.**

2503-901 Invalid master key; does not match database. Current Kerberos master key version is *key-version-number*

Explanation: A master key, entered from stdin or read from the /**.k** file, does not match the key used to encrypt the authentication database. Either you entered the wrong password, or the /**.k** file has been corrupted, or the database has been corrupted.

User Response: If you have changed passwords, and recorded the version numbers corresponding to the various passwords used, you may be able to determine the password you must enter. If the key version from the database is correct (for example, the database has not been down-leveled, as by invoking **kdb_util load** from a dump file created prior to the last password change) you may need to re-create the /**.k** file using **kstash.**

2503-902 Kerberos error locking database.

Explanation: This is a locking state violation, a Kerberos software error.

User Response: Follow local reporting procedures.

2503-903 Invalid kerberos lock request, mode = *lock-request-type***.**

Explanation: This is a Kerberos software error.

User Response: Follow local reporting procedures.

2503-904 Kerberos error unlocking database.

Explanation: This is a locking state violation, a Kerberos software error.

User Response: Follow local reporting procedures.

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2504-001 Kerberos principal expired.

Explanation: The current date is past the expiration date of the principal's entry in the authentication database. Either the system date is incorrect or the expiration date in the database entry was incorrectly set using **kdb_edit**.

User Response: Correct the system date, if it is incorrect; or use the **kdb_edit** command to change the expiration date in the principal's database entry.

2504-004 Unknown Kerberos protocol version.

Explanation: You are attempting to use client and server programs built with different levels of Kerberos libraries. The client and server functions cannot communicate correctly.

User Response: If you are using a Kerberos authentication server other than the one supplied in the PSSP, it must be compatible with MIT Kerberos 4 Patch level 10. The same is true of any Kerberos-authenticated client/server programs you may be running.

2504-005 Incorrect Kerberos master key version.

Explanation: Your /**.k** file contains a master key that does not match the key used to encrypt the authentication database. The file could have been corrupted or restored with an earlier level, or the database may have been destroyed.

User Response: Try to recreate the /**.k** file by invoking the **kstash** command, entering the correct database master key when prompted.

2504-008 Kerberos principal unknown.

Explanation: An authentication task cannot be performed because the principal name used is not defined in the authentication database. If the failing command is **rcmdtgt**, the principal **rcmd.***instance* has not been defined. If the command you entered specified a principal name explicitly, you may have incorrectly entered it.

User Response: Make sure you correctly entered the principal name on the commmand line or when prompted. If you entered the name correctly, or if you did not explicitly specify a principal for the task, contact your administrator to check the database for the required name and create it if required.

2504-009 Kerberos principal not unique.

Explanation: Multiple entries were found for a principal in the authentication database.

User Response: The root user must find and delete any unvalid, duplicate entries using the **kdb_util dump** command, an editor, and then **kdb_util load.**.

2504-010 Kerberos principal has null key.

Explanation: The entry for the principal has no key in the authentication database.

User Response: The root user must repair the entry for the principal, using the **kdb_edit** command, if possible. If that fails, the entry should be deleted and recreated using either **kdb_edit** or **kadmin.**.

2504-022 Can't find Kerberos ticket.

Explanation: The ticket cache file exists, but there is no ticket when one is expected.

User Response: Check the setting of the `KRBTKFILE` environment variable to insure that you are using the correct ticket cache file. Try the failing task again, after issuing the **kdestroy** command. If the **klist** command shows a valid ticket, but the task still fails, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-031 Kerberos error: can't decode authenticator.

Explanation: There is probably a mismatch between the authentication database and a service key file on the server side of an authenticated application.

User Response: Check the key version in the

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server key file on the server system. That is the target system of a **sysctl**, **rsh** or **rcp** command, or the control workstation if the failing task is trying to contact the Hardware Monitor Daemon. The system administrator, logged in as **root**, should inspect the service key file using the **klist** command and the authentication database using **kadmin**. If the keys have the same version number, gather information about the problem and follow local site procedures for reporting hardware and software problems. Otherwise, follow the instructions in the Chapter 6, “Diagnosing Authentication Problems” on page 21 for regenerating the service key file for the server system.

2504-032 Kerberos ticket expired.

Explanation: You attempted to perform a task requiring authentication, but the ticket found in the ticket cache file had expired.

User Response: You must log into Kerberos again using **kinit**, before retrying the failing task.

2504-033 Kerberos ticket not yet valid.

Explanation: The ticket found in the ticket cache has a date of issue after the current date and time. There may be someting wrong with the clock on your system.

User Response: Log into Kerberos again using **kinit**, then retry the failing task. Report a possible clock problem to your administrator.

2504-036 Inconsistent Kerberos request.

Explanation: An administrative request was issued that was inconsistent with the current state of the authentication database.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-037 Kerberos error: client and server clocks must be synchronized.

Explanation: Authentication failed because the clocks on the requesting system and the server differ by more than 5 minutes.

User Response: Have your administrator check that the system's time service is operating correctly, for example, that the NTP daemon is running.

2504-039 Kerberos protocol version mismatch.

Explanation: The authentication server is using a different protocol version of Kerberos than the client. This can only occur if service is being provided by a product not based on MIT Kerberos Version 4, as required.

User Response: You must reconfigure your authentication server(s) so that they all use the same level of Kerberos protocol.

2504-040 Kerberos error: invalid message type.

Explanation: A Kerberos message packet did not contain the expected information for the request.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-041 Kerberos error: message stream modified.

Explanation: A Kerberos message packet was garbled. This could be through a networking problem, or through improper use of an intercepted message by an outside party.

User Response: Report the problem to your administrator. Investigate possible network hardware or software problems, as well as exposure to network breakin.

2504-052 Kerberos error: incorrect current password.

Explanation: When changing a principal's password, the current password was incorrectly entered.

User Response: Enter the correct password.

2504-056 Kerberos error: retry count exceeded.

Explanation: Repeated attempts to communicate with an authentication server failed.

User Response: Have the administrator check that the server daemon is running and that

TCP/IP communication is possible between this system and the server system.

2504-057 Kerberos error: can't send request to server.

Explanation: The server system may not be defined properly, TCP/IP communication may be disrupted, or name service may not be working as expected.

User Response: Have your administrator check for proper setup of network interfaces and availability of name service for your system.

2504-062 Incorrect Kerberos password.

Explanation: You entered a password that is incorrect for the principal you are using.

User Response: Enter the correct password, or enter another principal name if the name you are using is incorrect.

2504-063 Kerberos protocol error.

Explanation: An internal error occurred, preventing the client and server functions from successfully completing an authentication or administration task.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-070 Generic Kerberos error.

Explanation: An unexpected condition caused an authentication task to terminate. One possible cause is user interruption via <Ctrl> C.

User Response: Reissue the command, if required.

2504-071 Don't have Kerberos ticket-granting-ticket.

Explanation: There is no ticket-granting-ticket in the ticket cache file. Perhaps `KRBTKFILE` points to a file that is not a ticket cache.

User Response: Check the `KRBTKFILE` environment variable for an erroroneous setting. Log into Kerberos using **kinit**. If the problem persists. gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-076 Kerberos ticket file was not found.

Explanation: You have no tickets. If you have logged into Kerberos, perhaps you have not defined or exported the `KRBTKFILE` environment variable properly.

User Response: Check the `KRBTKFILE` environment variable for an erroroneous setting. Log into Kerberos using **kinit**. If error persists, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-077 Can't access Kerberos ticket file.

Explanation: There is a problem with access permissions for your ticket cache file.

User Response: Make sure the file you are using is accessible to you.

2504-078 Can't lock Kerberos ticket file.

Explanation: The request to lock the ticket file failed, probably because you have another process using it. If not, perhaps the `KRBTKFILE` environment variable names a file that is another user's ticket cache file.

User Response: Check whether you are attempting to update the ticket file while it is in use. Check the `KRBTKFILE` environment variable for an erroroneous setting.

2504-079 Bad Kerberos ticket file format.

Explanation: The ticket file exists and can be accessed, but does not contain tickets with the required format.

User Response: Check the `KRBTKFILE` environment variable for an erroroneous setting.

2504-080 Kerberos ticket file not initialized.

Explanation: An internal error occurred, preventing the ticket cache file from being read.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-081 Kerberos name has invalid format.

Explanation: You did not enter a user name in the expected format when prompted. You probably tried to enter instance and/or realm names in addition to the user name. **kinit** is asking for just the user name part of the principal name.

User Response: If you do not enter the full principal name on the command line, you must specify the **-i** flag in order to enter an instance name interactively. Similarly, you must specify the **-r** flag if you want to specify a realm name interactively.

2504-303 Can't encrypt data.

Explanation: Either client or server failed attempting to encrypt a protocol message. One possible reason is failure to obtain the current system time-of-day.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-305 Principal attemping change is in wrong realm.

Explanation: You requested a password change for a principal defined in a realm other than the one to which your **kadmin** command was directed.

User Response: Exit from **kadmin** and reissue the command specifying the correct realm for the princpal whose password you wish to change.

2504-306 Packet is too large.

Explanation: The authentication message built by an administrative command to send to the **kadmind** server is larger than the 64KB limit.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-307 Version number is incorrect.

Explanation: The Kerberos administration command you issued and the administrative server have different version numbers. You are probably running an authentication server based on a different level of MIT Kerberos that is not supported with the 9076 SP2 authentication service.

User Response: Reconfigure your authentication service using the 9076 SP2 authentication server (**ssp.authent**), or another server running a compatible level of MIT Kerberos Version 4. If using the 9076 SP2 server, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-308 Checksum does not match.

Explanation: The Kerberos administration command you issued and the administrative server calculated different checksums. The message could have been corrupted during transmission, or you may be using a Kerberos authentication server based on a different level of MIT Kerberos that is not supported with the 9076 SP2 authentication service.

User Response: Check for other evidence that network traffic is being corrupted. If there is no such evidence, and you are not using the 9076 SP2 server, reconfigure your authentication service using the 9076 SP2 authentication server (**ssp.authent**), or another server running a compatible level of MIT Kerberos Version 4. Otherwise, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-310 Unsupported operation.

Explanation: The Kerberos administration server found an unsupported operation type field in the client command's request. The message could have been corrupted during transmission, or you may be using a Kerberos authentication server based on a different level of MIT Kerberos that is not supported with the SP authentication service.

User Response: Check for other evidence that network traffic is being corrupted. If there is no such evidence, and you are not using the 9076 SP2 server, reconfigure your authentication

service using the 9076 SP2 authentication server (**ssp.authent**), or another server running a compatible level of MIT Kerberos Version 4. If using the 9076 SP2 server, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-311 Could not find administrating host.

Explanation: You attempted to perform an administrative task for a realm that has no administration server listed in your system's **/etc/krb.conf** file. Each realm that you expect to administer should have an entry for its primary (administration) server in the **krb.config** file on any system from which you expect to execute administration commands.

User Response: Add the appropriate entry on this system and reissue the failing command.

2504-312 Administrating host name is unknown.

Explanation: You attempted to perform an administrative task for a realm whose administration server is inaccessible on the network from this system. This could be the result of a name service problem or an incorrect entry for the primary (administration) server in the **krb.config** file on this system.

User Response: Check the **krb.conf** file and hostname resolution facilities. If necessary, change the **krb.conf** file entry. Reissue the failing command.

2504-314 Could not create socket.

Explanation: The administration command or the **kadmind** server was unable to open a socket. The port could be already in use by another process or the port number for the service might be defined incorrectly in the **/etc/services** file.

User Response: Check to insure that the port is available and that the **kadmind** port is not defined for another service.

2504-315 Could not connect to server.

Explanation: The connect system call failed trying to connect to the **kadmind** server.

User Response: Check for other network error messages indicating related error conditions. If the problem is not resolved, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-316 Could not fetch local socket address.

Explanation: The **getsockname** system call failed, after connecting to the **kadmind** server.

User Response: Check for other network error messages, indicating related error conditions. If the problem is not resolved, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-317 Could not fetch master key.

Explanation: The administration command was unable to obtain the master key, from the master key cache file (/**.k**) or interactively from stdin. The **kadmind** server is terminated during startup by this condition. The /**.k** file is created by **kstash**, invoked by the **setup_authent** command. It must exist if the **-n** flag is specified when starting the **kadmind** daemon. If **-n** is not specified, the daemon requires interactive input of the master key.

User Response: Make sure that file /**.k** exists and that **-n** is specified on the **inittab** entry used to start the **kadmind** daemon.

2504-318 Could not verify master key.

Explanation: The master key was read from the /**.k** file or the keyboard, but is not equal to the current master key for the database. If you changed the master key using the **kadmin** command, you may not have reissued **kstash** to re-create the master key cache file.

User Response: Issue the **kstash** command if you need to do so, then restart the **kadmind** daemon.

2504-319 Entry already exists in database.

Explanation: You tried to create a principal that already exists in the authentication database. You may have incorrectly specified the name, or tried to add it unnecessarily.

User Response: Reissue the request, specifying the correct principal name, if necessary.

2504-320 Database store error.

Explanation: The administration server was unable to update the authentication database. The most likely cause is lack of space in the /**var** file system.

User Response: Check whether the /**var** filesystem must be expanded. Reissue the failing request after allocating additonal space, if necessary.

2504-321 Database read error.

Explanation: The administration server was unable to read the authentication database.

User Response: Check for possible filesystem or device problems.

2504-322 Insufficient access to perform requested operation.

Explanation: You are not authorized to perform the requested operation according to the administration server's access control list files: **admin_acl.get**, **admin_acl.add**, and **admin-acl.mod**.

User Response: Have an authorized administrator perform the task or have the root user add your Kerberos principal to one or more of the access control list files.

2504-324 No such entry in the database.

Explanation: The principal you attempted to get or modify was not found in the authentication database. You may have incorrectly specified the name.

User Response: Reissue the request with a correct principal name.

2504-325 Memory exhausted.

Explanation: The administrative command was unable to allocate sufficient memory to build the protocol message to send to the administration server.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-326 Could not fetch system hostname.

Explanation: The **gethostname** or **gethostbyname** system call failed when the Kerberos administration server was being initialized.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-327 Could not bind port.

Explanation: The bind system call failed trying to connect to the **kadmind** server.

User Response: Check for other network error messages indicating related error conditions. If the problem is not resolved, gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-328 Length mismatch problem.

Explanation: The data received from the client or server in an authentication message has elements whose lengths are incorrect. This is an internal error.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

2504-329 Illegal use of wildcard.

Explanation: You specified the "*" wildcard character as a name or instance when you requested an administrative function. This is not allowed.

User Response: You must specify one specific principal.

2504-330 Database locked or in use.

Explanation: The administrative server was unable to update the database, probably because another process is using it.

User Response: Make sure that you or another administrator logged in as root is not making simultaneous updates using the **kdb_edit** or **kdb_load** utilities.

2504-331 Insecure password rejected.

Explanation: You entered a new password that failed the triviality checks performed by the authentication server.

User Response: Reissue the request and specify another password.

2504-332 Cleartext password and DES key did not match.

Explanation: An internal error occurred that caused an encrypted password to no longer match its database entry.

User Response: Gather information about the problem and follow local site procedures for reporting hardware and software problems.

Chapter 50. 2505 - Heartbeat Messages

2505-001 *(sp_name_if_applicable)* **ERROR:** *variable_text*

Explanation: The heartbeat daemon, **hbd**, detected an internal problem.

User Response: Frequently, such problems are transient situations and can be ignored. If the problem persists, or if **hbd** appears to be operating incorrectly, issue **hb reset** on the node with the problem (or on the nodes and to the control workstation's **hbd** daemon for the corresponding system partition) to restart the daemon. This action causes the node to appear “down” in **host_responds**. If you have updated the node configuration data in the SDR, you may need to do this on all the nodes in a system partition.

Also, make sure that all nodes, including the control workstation, have explicit point-to-point connectivity using their ethernet (en0) addresses. If this still does not yield correct operations, follow your local procedures for obtaining corrective service.

2505-101 *(sp_name_if_applicable)* **ERROR: The hb**.*(sp_name_if_applicable)* **subsystem must be stopped before** *removing_or_remaking* **it.**

Explanation: An attempt was made to remove the SRC definition of a running heartbeat daemon.

User Response: Issue **hb stop** to stop the heartbeat daemon in the desired system partition. Then issue the command that, in turn, issued either **hb rmsrc** to remove, or **hb mksrc** to remake the SRC definition.

2505-102 *(sp_name_if_applicable)* **ERROR: Invalid SP_Level=***level_found***.**

Explanation: The **-splevel** flag is for internal use when making a heartbeat system object. Make sure your system partitions are defined with the correct code_version values by examining the output from the **SDRGetObjects -G Syspar** *syspar_name code_version* command. If these are correct and the problem occurs when starting a heartbeat daemon, the SRC object representing heartbeat is probably in error. Check the command arguments as shown by **hb qsrc** to verify this. You can use **hb mksrc -splevel** *syspar_level* to repair the problem. The *syspar_level* should be either PSSP-1.2 or PSSP-2.1. If this is ineffective, you must either restore the system or redefine your system partitions.

2505-103 *(sp_name_if_applicable)* **ERROR: hbd is not executable; SRC object hb**.*(sp_name_if_applicable)* **not made.**

Explanation: The **hb mksrc** command detected that the heartbeat daemon executable, **hbd**, was either missing or did not have execute permission in **/usr/lpp/ssp/bin**.

User Response: Make sure that the executable is available and retry the failing command. If the problem persists, follow your local procedures for obtaining corrective service.

2505-104 *(sp_name_if_applicable)* **ERROR: SDRGetObjects Syspar failed: setting SP_NAME=***syspar_name***.**

Explanation: A problem happened converting the name of a system partition to an **SP_NAME** value. An SDR error should immediately preceed this message. SP_NAME is set to the system partition's name, which is likely to provide correct operation.

User Response: Make sure the SDR contains correct system partition definitions. You can also check that the SRC definition for heartbeat for the system partition is correct by issuing **hb qsrc** and verifying that the **-spname** flag in the command arguments is followed by the correct system partition name. If there is any inconsistency, follow local procedures for obtaining corrective service.

Also, make sure that the SDR daemon for the partition has been started and is functioning correctly. Issue **sdr reset** if not. If the problem persists, follow local procedures for obtaining corrective service.

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2505-105 *(sp_name_if_applicable)* **ERROR: SDR** *syspar_or_adapter* **class not available; waiting to run heartbeat.**

Explanation: The **hbd** daemon cannot be started because either the Syspar or Adapter SDR class is not available. This message is produced only on the first attempt to access each SDR class.

User Response: Make sure that the SDR is running and that the configuration information in these classes is present. No other action is required; **hb** will retry its SDR request every 30 seconds until it succeeds. The **ps** command will appear to show two entries for heartbeat while it is in this state. **hb query** and **hb stop** commands will hang.

2505-106 *(spname_if_applicable)* **ERROR: Invalid parameter** *invalid_parameter***. Usage: hb [[start** | **reset** | **mksrc** | **restore] [** *options* **]]** | **[stop** | **query** | **qall** | **refresh** | **qsrc** | **rmsrc]**

Explanation: You issued an incorrect **hb** command.

User Response: Correct and reissue the **hb** command. You must issue **hb** with one of the flags shown. If issued without a flag, **hb** attempts to start **hbd** in the foreground which is not supported.

2505-201 *(spname_if_applicable)* **ERROR:** *variable_text*

Explanation: The host_responds, **hrd**, detected an internal problem.

User Response: If the problem persists, issue **hr reset** to restart the daemon. Because **hrd** is dependent on **hbd** and **sdrd** to function, you may have to repair one of these subsystems to make **hrd** operate properly again.

2505-301 *(spname_if_applicable)* **ERROR: The hr**.*spname_if_applicable* **subsystem must be stopped before** *removing_or_remaking* **it.**

Explanation: An attempt was made to remove the src definition of a running host_responds daemon.

User Response: Issue **hr stop** to stop the host_responds daemon in the system partition. Then issue the command that, in turn, issued either **hr rmsrc** to remove, or **hr mksrc** to remake the SRC definition.

2505-303 *(sp_name_if_applicable)* **ERROR: hrd is not executable; SRC object hr**.*sp_name_if_applicable)* **not made.**

Explanation: The **hr mksrc** command detected that the host_responds daemon executable, **hrd**, was either missing or did not have execute permission in /**usr**/**lpp**/**ssp**/**bin**.

User Response: Make sure that the executable is available and retry the failing command. If the problem persists, follow your local procedures for obtaining corrective service.

2505-304 *(sp_name_if_applicable)* **ERROR: SDRGetObjects Syspar failed: setting SP_NAME=***syspar_name***.**

Explanation: A problem happened converting the name of a system partition to an **SP_NAME** value. An SDR error should immediately preceed this message. If the SDR was not available, SP_NAME is set to the system partition's name, which is likely to provide correct operation. If the error was caused by a bad partition name, SP_NAME is set to the word “unknown”, which will be apparent in any later errors which may occur.

User Response: If “unknown” was displayed in the error message, make sure the SDR contains correct system partition definitions. You can also check that the SRC definition for host_responds for the system partition is correct by issuing **hr qsrc** and verifying that the **-spname** flag in the command arguments is followed by the correct system partition name. If there is any inconsistency, follow local procedures for obtaining corrective service.

Otherwise, make sure that the SDR daemon for the partition has been started and is functioning correctly. Issue **sdr reset** if not. If the problem persists, follow local procedures for obtaining corrective service.

2505-306 *(spname_if_applicable)* **ERROR: Invalid parameter** *invalid_parameter***. Usage: hr [start | stop | reset | query | qall | refresh | mksrc | rmsrc | qsrc | restore]**

Explanation: You issued an incorrect **hr** command.

User Response: Correct and reissue the **hr** command. You must issue **hr** with one of the flags shown. If issued without a flag, **hr** attempts to start **hrd** in the foreground which is not supported.

Chapter 51. 2508 - Log Management Messages

2508-101 Options *options* and *options* are mutually exclusive.

Explanation: The two lists of options are mutually exclusive for this usage.

User Response: Review the reference page for the program and the usage string and re-enter the command.

2508-102 Cannot open file *file name*.

Explanation: Cannot open a file needed to execute the command.

User Response: Check the pathname and permissions to the file.

2508-103 Missing required option(s): *options*.

Explanation: Required command line options were not passed.

User Response: Re-enter the command with the missing required options.

2508-104 Invalid options(s): *options*.

Explanation: Options passed are not valid for this function.

User Response: Re-enter the command with valid options.

2508-105 Caught SIG(*signal*) terminating...

Explanation: The command received a signal causing it to terminate.

User Response: None

2508-106 Option(s) *options* must be supplied if option *option2* is not used.

Explanation: *options* are required when *option2* is not used.

User Response: Re-enter the command with the required options.

2508-107 Cannot create directory: *directory*.

Explanation: An error occurred while trying to create the directory.

User Response: Check the permissions and path to the target directory.

2508-108 Directory *directory* not found.

Explanation: The required directory was not found to exist.

User Response: Check the directory pathname.

2508-109 *name* is not a directory.

Explanation: A parameter passed as a directory name is not a directory.

User Response: Re-enter the command with a corrected directory name.

2508-110 No hostnames found.

Explanation: No hosts to execute on were found

User Response: Check that **-a** or **-w** flags are used.

2508-201 Invalid output location: *location*.

Explanation: The output location (-o) was not a valid form.

User Response: Re-enter the command with a output location of: /dev/rmt*device_number*, /dev/rfd*device_number*, or userid@address.

2508-202 Cannot send file *file name* to output location.

Explanation: An error occurred while attempting to either write a file to the specified device, or mail it to the specified mail location.

User Response: make sure the output location specified is a valid tape device, disk device, or mail location.

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2508-203 Cannot determine space available under directory *directory***.**

Explanation: An error occurred while trying to determine the size of a filesystem.

User Response: Determine if the filesystem path exists.

2508-204 No commands found in table: *tablename***.**

Explanation: No valid collection commands or source files were found in the input table.

User Response: Fix any syntax errors in the table or add collection stanzas.

2508-205 No target nodes found in table: *tablename***.**

Explanation: No node names were found on the table stanzas.

User Response: Add target node names or files to the table stanzas.

2508-206 Unsupported snap option(s).

Explanation: The **snap** options specified to the service function are not supported. This msg is followed by the usage string which displays the legal snap options.

User Response: Review the reference page or usage string for a list of supported **snap** options.

2508-207 Cannot parse line *linenumber* **in table** *tablename***.**

Explanation: The stanza on *linenumber* in the input table was not correctly formed.

User Response: Edit the table and correct the stanza in error.

2508-208 Insufficient space to rcp *tarfile_name***. tar size is** *tarfile_size***.**

Explanation: The server was unable to copy the node.tar.Z file to the client based on the size limit set by the client.

User Response: If sufficient space exists the client will make a second attempt to have the server **rcp** the file. If it fails, increase the size of the filesystem used on the client.

2508-209 Insufficient authorization to run this function.

Explanation: The user failed an internal authentication check on the server.

User Response: **splm** requires the following authorization:

splm -a view requires the user be authenticated to kerberos by **kinit**
splm -a archive also requires the user to be listed in the /**etc/logmgt.acl** file.
splm -a gather also requires the user to be listed in the /**etc/logmgt.acl** file.
splm -a service also requires the user to be listed in the /**etc/logmgt.acl** file.

2508-210 No match found to source directory *srcfile* **skipping...**

Explanation: A source file in a table stanza was not found on the server.

User Response: This stanza will be skipped. Check for existence of the file and edit the table if it was not entered correctly.

2508-211 Snap failed.

Explanation: A call to **snap** failed.

User Response: Review the **snap** messages passed by the command.

2508-212 Cannot cp file *file name* **to archive or collection.**

Explanation: An error occurred while trying to copy a source file into an archive or service collection.

User Response: Check for the file's existence and permissions.

2508-213 Cannot execute *command* **to archive or collection.**

Explanation: An error occurred while trying to execute a source command in the input table.

User Response: Check the command's syntax, path and permissions.

2508-214 Insufficient space to create archive or service collection.

Explanation: There was not enough file space to create an archive or service collection on the server node.

User Response: Increase the filesystem size on the server.

2508-215 Insufficient space to gather archive or service collection from *node***.**

Explanation: There was not enough file space to gather an archive or service collection from the server node.

User Response: Increase the filesystem size on the client.

2508-216 Error in rcp of *tarfile* **to** *central_location***. tar size is** *tar_file_size***.**

Explanation: **rcp** failed when trying to copy *tarfile* back to client filesystem.

User Response: Review any prior messages issued by **rcp**.

2508-217 Command *command* **not in authorization file splm.allow. Skipping...**

Explanation: Command was not listed in **splm.allow** file so it cannot be executed.

User Response: Update **/etc/splm.allow** file or remove entry from table.

2508-218 Error executing command *command* **to view.**

Explanation: Command could not be executed to view.

User Response: Check permissions of file being executed.

2508-219 Cannot open pipe from sysctl.

Explanation: An error occurred while trying to open a pipe to **sysctl**.

User Response: Check that the **sysctld** daemon is running.

2508-220 No valid file or command actions received. Exiting.

Explanation: No valid actions (commands or source files) were received from the client to this node.

User Response: Review prior messages for errors in the actions received.

2508-221 Error in creating *archive* | *collection* **tar file:** *tar_file_name***.**

Explanation: An error occurred when trying to create an archive tar file or service collection tar file.

User Response: Review prior messages for errors, increase filesystem size if that caused the failure.

2508-222 Command *command_name* **not found, skipping...**

Explanation: A command in the table was not found on the server.

User Response: This command will be skipped. Check for existence of the command and edit the table if it was not entered correctly.

2508-301 Start and end times must be mmddhhmm (month/day/hour/minute).

Explanation: Start or end time in wrong format.

User Response: Re-enter with valid start and end times.

2508-302 Insufficient authorization to trim syslog files.

Explanation: User not authorized to trim **syslog** log files.

User Response: User must be in **/etc/logmgt.acl** file to trim logs.

2508-303 Cannot restart syslogd with configuration file: *configuration_file***.**

Explanation: Unable to restart **syslog** daemon after trimming logs.

User Response: Check the syntax of the *configuration_file*.

2508-304 Invalid priority value: *priority***.**

Explanation: **-p** option argument invalid.

User Response: Re-enter command with valid priority.

2508-305 No log files found matching the configuration file search parameters.

Explanation: No log files found to trim or report on.

User Response: Check that the **-p, -f, -g,** or **-l** flags lead to valid log files.

2508-306 The -y flag, or one or both -e, -s flags are required.

Explanation: The **-y** flag is exclusive with the **-e, -s** flags, but either the **-y** or **-e, -s** are required.

User Response: Issue the command again with either **-y**, **-e**, or **-s**.

2508-401 Cannot add Notification Object. Object *objectname* **already exists.**

Explanation: Cannot add an object by the same name as an existing object.

User Response: Remove the old object first if making a change, or rename the new object.

2508-420 There must be an equal number of detail data lengths, ids, and encodings entered.

Explanation: Error templates must have a length, ID, and encode for each detail data stanza.

User Response: Re-enter the command with equal numbers of these fields (between 0-8 each).

Chapter 52. 2509 - Availability Control Workstation Connectivity (HACWS) Messages

2509-001 Permission denied. You must be the root user to set the virtual host name.

Explanation: Only the root user can set the virtual host name.

User Response: Login as root.

2509-002 Could not retrieve the virtual host name from the /etc/vhostname file.

Explanation: The virtual host name gets stored in the **/etc/vhostname** For some reason, the **vhostname** command could not retrieve the virtual host name from the file.

User Response: Run the command **cat /etc/vhostname** and investigate the error.

2509-003 Could not store the virtual host name into the /etc/vhostname file.

Explanation: The virtual host name gets written to a temporary file, and the temporary file gets renamed to **/etc/vhostname**. The problem may have occurred while attempting to store the virtual host name into the temporary file or while attempting to rename the temporary file.

User Response: Execute the following series of commands:

```
echo fake_name >/etc/vhostname.tmp
rm /etc/vhostname
mv /etc/vhostname.tmp /etc/vhostname
```

One of these commands should fail. Investigate the error.

2509-004 The length of a virtual host name is limited to *255* bytes. MAX_VHOSTNAME_LEN = maximum number of bytes in a virtual hostname.

Explanation: You attempted to set a virtual host name which exceeds 255 bytes.

User Response: Reissue the command with no more than *255* bytes.

2509-031 The number of parameters specified is not correct.

Explanation: The **sethacws** command expects exactly one argument which represents the new HACWS configuration state. Too many or too few arguments is considered to be an error.

User Response: Reissue **sethacws** with the correct number of parameters.

2509-032 Permission denied. You must be the root user to run this command.

Explanation: Only the root user can set the HACWS configuration state.

User Response: Login as root.

2509-033 Invalid argument. You must specify a valid HACWS configuration state.

Explanation: You attempted to set the HACWS configuration state to a value which is not allowed.

User Response: Refer to the **sethacws** reference page for a list of valid HACWS configuration states.

2509-034 Could not determine whether command was running on a control workstation.

Explanation: Could not run **/usr/lpp/ssp/install/bin/node_number,** or it returned an error code.

User Response: Run **/usr/lpp/ssp/install/bin/node_number** and investigate the error.

2509-035 This command can be run only on a control workstation.

Explanation: This command was not run on a control workstation.

User Response: Issue this command at the control workstation.

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2509-036 Could not store the HACWS configuration state into the /etc/hacws.state file.

Explanation: The HACWS configuration state gets written to a temporary file, and the temporary file gets renamed to **/etc/hacws.state**. A problem may have occurred while attempting to store the HACWS configuration state into the temporary file or while attempting to rename the temporary file.

User Response: Execute the following series of commands:

```
echo fake_name >/etc/hacws.state.tmp
rm /etc/hacws.state
mv /etc/hacws.state.tmp /etc/hacws.state
```

One of these commands should fail. Investigate the error.

2509-061 Could not determine whether the command was running on a control workstation.

Explanation: Could not run **/usr/lpp/ssp/install/bin/node_number,** or it returned an error code.

User Response: Run **/usr/lpp/ssp/install/bin/node_number** and investigate the error.

2509-062 This command can be run only on a control workstation.

Explanation: This command was not run on a control workstation.

User Response: Issue this command at a control workstation.

2509-063 Could not retrieve the HACWS configuration state from the /etc/hacws.state file.

Explanation: The HACWS configuration state gets stored in the **/etc/hacws.state** file For some reason, the **lshacws** command could not retrieve the HACWS configuration state from the file.

User Response: Issue the command **cat /etc/hacws.state** and investigate the error.

2509-064 The /etc/hacws.state file has been corrupted. Please notify your system administrator.

Explanation: The HACWS configuration state gets stored in the **/etc/hacws.state** file. The **lshacws** command successfully read the contents of the **/etc/hacws.state** file, but the file did not contain a valid HACWS configuration state.

User Response: General users should notify their system administrator. The system adminstrator should restore the correct HACWS configuration state by running the **sethacws** command, and then attempt to find out why the **/etc/hacws.state** file was corrupted in the first place.

Chapter 53. 2510 - Switch Fault Service Daemon Messages

2510-195 The fault service daemon got a SIGTERM signal.

Explanation: The fault service daemon was terminated by a SIGTERM signal. This is usually cause by someone issuing rc.switch on the node.

User Response: No user action is required. See the Diagnosing Switch Problems section of this book for more information on this message.

2510-196 The fault service daemon got a SIGDANGER signal, probably because the system is low on pg space.

Explanation: The fault service daemon received a SIGDANGER signal. The usual cause of this condition is low paging space on the node.

User Response: Contact IBM Software Support.

2510-197 The fault service daemon got a SIGBUS signal.

Explanation: The fault service daemon received a SIGBUS signal, from an exception that occurred, while attempting to access the switch adapter. This is a likely hardware problem.

User Response: See the section on Diagnosing Switch Problems for more information on the Isolating Adapter and Switch Errors. An error log entire should accompany this entry with more details and information that have actions in the section on Isolating Adapter and Switch Errors.

2510-606 A switch Error/Status service packet was received during a broadcast operation.

Explanation: A switch Error/Status service packet was received by the primary node during a service packet broadcast operation. The fault service daemon takes recovery actions when this occurs.

User Response: Review other messages in the flt file, that were generated near the time-stamp of this entry, to try and isolate the root cause of the problem. If the problem persists, contact IBM Software Support.

2510-607 Timed-out waiting for acknowledgements from broadcast operation.

Explanation: The fault service daemon on the primary node timed out waiting for an acknowledgement(s) from a node or nodes, during a service packet broadcast operation. The fault service daemon takes recovery actions when this occurs.

User Response: Review other messages in the flt file, that were generated near the time-stamp of this entry to try and isolate the root cause of the problem. If the problem persists, contact IBM Software Support.

2510-651 Service library error.

Explanation: The fault service daemon's communication library returned an error.

User Response: This is not a normal condition, contact IBM Software Support.

2510-712 generate_service_routes() failed with rc=*rc*.

Explanation: The primary node failed to successfully generate service routes for the switch network. The return code from the service route generation function is also displayed. The fault service daemon on this node is terminated. On SP switch systems, the primary backup node will attempt to takeover control of the switch network.

User Response: This is not a normal condition and IBM Software Support should be contacted.

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2510-714 generate_processor_routes() failed with rc=*rc*.

Explanation: The primary node failed to successfully generate processor (node to node) routes for the switch network. The return code from the processor route generation function is also displayed. The fault service daemon on this node is terminated. On SP switch systems, the primary backup node will attempt to takeover control of the switch network.

User Response: This is not a normal condition and IBM Software Support should be contacted.

2510-715 SetSystemTOD() failed with rc=*rc*

Explanation: The primary node failed to successfully synchronize all of the Time-Of-Day counters in the switch network. The switch Time-Of-Day counters are not valid. The fault service daemon on this node is terminated. On SP switch systems, the primary backup node will takeover control of the switch network.

User Response: This is not a normal condition and IBM Software Support should be contacted.

2510-716 downLoad_processor_route_table() failed with rc=*rc*.

Explanation: The fault service daemon on this node failed to down load its processor to processor route table to the kernel and/or switch adapter on the primary node. The fault_service daemon is terminated. On SP switch systems, the primary backup node will takeover control of the switch network.

User Response: This is not a normal condition and IBM Software Support should be contacted.

2510-720 Tbic should not be on device FIFO.

Explanation: During switch initialization the fault service daemon encountered a Tbic (node) devices on its device FIFO, when it was expecting to process a switch device. The fault_service daemon is terminated. The primary backup node will takeover control of the switch network.

User Response: This is not a normal condition and IBM Software Support should be contacted.

2510-727 Switch node number *switch node number* NOT Fenced, rc=*rc*.

Explanation: The specified switch node number did not fence successfully.

User Response: See the Diagnosing Switch Problems section of this book for more information on this failure.

2510-730 Switch node number *switch node number* NOT UnFenced, rc=*rc*.

Explanation: The specified switch node number did not unfence successfully.

User Response: See the Diagnosing Switch Problems section of this book for more information on this failure.

2510-731 Device *device ID* did not respond. Disabling device.

Explanation: The device specified in the message, failed to respond to a service packet request from the primary node. The fault service daemon's recovery action in this instance is to remove the device from the switch network configuration.

User Response: This is not a normal condition and IBM Software Support should be contacted. More details can be found in the out.top file. See the section on "Device and Link Problems" in the Diagnosing Switch Problems chapter.

2510-732 Enodes does not exist, so we assume SDR is in use.

Explanation: The fault service daemon will use the SDR data and interface.

User Response: None. The message is informational.

2510-733 SDROpenSession failed with a return code *return code*.

Explanation: The SDROpenSession function failed with specified return code.

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-734 SDRSetClass failed with a return code *return code***.**

Explanation: The SDRSetClass function failed with specified return code.

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-735 SDRAddIntAttrValue failed with a return code *return code***.**

Explanation: The SDRAddIntAttrValue function failed with the specified return code *return code*.

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-736 SDRAddStringAttrValue failed with a return code *return code*

Explanation: The SDRAddStringAttrValue function failed with the specified return code *return code*

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-737 SDRChangeAttrValues failed with a return code *return code***.**

Explanation: The SDRChangeAttrValues function failed with the specified return code *return code*.

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-738 SDRGetObjects failed with a return code *return code***.**

Explanation: The SDRGetObjects function failed with specified return code.

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-739 SDRFindAttrInObject failed with a return code *return code***.**

Explanation: The SDRFindAttrInObject function failed with specified return code.

User Response: See the Diagnosing SDR Problems section of this book for more information.

2510-740 Packet Sequence Number = *packet sequence number* **Switch Time-Of-Day=***time of day value***.**

Explanation: The packet sequence number and switch Time-Of-Day contained in a switch packet.

User Response: None. The message is informational.

2510-741 Second Error Capture Registers = *second error capture registers***. XXXXXXXXXXXXXXX**

Explanation: The value of a switch chip's Second Error Capture Registers. This register contains detailed switch chip error status. A value of all 0x00's denotes a clean or error free switch chip.

Explanation: The Second Error Capture Registers contains detailed information on errors detected by a switch chip. There is a byte for each type of error which either contains which port the error was detected on or additional information on the type of error.

User Response: None. The message is informational.

2510-742 Transmitting a Reset Error packet; Route = *route***, Recv Error Resets =** *receiver error resets***, Sender Error Resets =** *sender error resets***, Central Queue Resets =** *central queue resets***, Service Logic Resets =** *service logic resets***.**

Explanation: Switch recovery transmitted a Reset Error packet to a switch chip with specified fields. A Reset Error packet resets a switch chip's first and second error capture registers.

User Response: None. The message is informational.

2510-743 Disabling port *port number* **of chip** *chip* **on the switch in slot** *slot number* **of frame** *frame number*

Explanation: Switch recovery code disabling a port on the switch as a recovery action.

User Response: None. This message is informational about a recovery action that was taken. If the port that was disabled is not a Device that was intentionally powered off then contact IBM Hardware service.

2510-746 Error / Status packet received prior to database construction, device id=*ID***.**

Explanation: An Error/Status packet was received before the switch was initialized. The switch must be initialized before switch recovery will take place.

User Response: Abnormal condition, contact IBM Software Support.

2510-747 Transmitting a Read Status packet; Route=*route***, Device ID=***device ID***.**

Explanation: Switch recovery transmitted a Read Status packet to a device with the specified device ID. A Read Status packet queries a device for its current error and status information.

User Response: None. The message is informational.

2510-748 The backup node (ID=*ID***) has been removed from the switch network.**

Explanation: The Primary backup node has been fenced from the switch. A new Primary backup node was chosen.

User Response: None. The message is informational.

2510-749 Turning off switchResponds bits for node *node number* **in the SDR.**

Explanation: Turning off bits in the switch_responds class in the SDR.

User Response: None. This message is informs of a switch_responds bit for a Device or Node being turned off.

2510-754 Time out on receive of duplicate packet.

Explanation: Only one or two responses to a service packet was received.

User Response: None. The message is informational.

2510-757 Unable to locate an entry for device *Device ID* **in the database.**

Explanation: Unable to locate an entry for the specified device in the device database. This should not occur during normal operation.

User Response: Abnormal condition, contact IBM Software Support.

2510-758 Unable to retrieve a service route for device *device ID***.**

Explanation: No switch route exists to device ID specified. This should not occur during normal operation.

User Response: Abnormal condition, contact IBM Software Support.

2510-759 Error count threshold has been exceeded, initiating recovery action(s).

Explanation: A switch device has exceeded its error threshold. The switch recovery action will disable the faulty link or device.

User Response: If the switch device that the error threshold was exceeded for was not intentionally removed or powered off, then contact IBM Hardware service.

2510-760 An incorrect error detection code has been detected on the switch in: *frame***,** *slot***,** *chip***,** *port***,** *device ID***.**

Explanation: An EDC error has been detected by a switch chip. A likely cause for this error is that the device on the other side of the link has been powered down, reset, or rebooted. Other possible causes are that the data cable is faulty or not properly seated in the connectors. An EDC error indicated that data was corrupted when transmitted over a data link.

User Response: If this message continues to be logged, bring it to the attention of IBM

Hardware service. See the chapter on Diagnosing Switch Problems for details.

2510-761 A Parity Error on Route Byte has been detected on the switch in: *frame, slot, chip, port, device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-762 An Undefined Control Character has been detected on the switch in: *frame, slot, chip, port, device ID***.**

Explanation: An Undefined Control Character has been detected by a switch chip. A likely cause for the error is that the device on the other side of the link has been powered down, reset, or rebooted. Other possible causes are that the data cable is faulty or not properly seated in the connectors.

User Response: If this message continues to be logged, bring it to the attention of IBM Hardware service.

2510-763 Unsolicited Data has been detected on the switch in: *frame, slot, chip, port, device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-764 A Lost End-of-Packet Character error has been detected on the switch in: *frame, slot, chip, port, device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-765 A Route Violation error has been detected on the switch in: *frame, slot, chip, port, device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-766 A STI Data Re-Time Request has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: None. The message is informational.

2510-767 A Receiver Link Synchronization Failure has been detected on the switch in *Frame, Slot, Chip, Port, Device ID***.**

Explanation: A Receiver Link Synchronization Failure has been detected by a switch chip. A likely cause for the error is that the device on the other side of the link has been powered down, reset, or rebooted. Other possible causes are that the data cable is faulty or not properly seated in the connectors.

User Response: Consult the section on Diagnosing Switch Problems and check device on the other end of the link. If it wasn't intentionally powered off, rebooted or disconnected then contact IBM Hardware support.

2510-768 A FIFO Overflow error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-769 A Token Count Miscompare has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-770 An EDC Threshold Error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: An EDC Threshold Error has been detected by the chip. A likely cause for the error is that the device on the other side of the link has been powered down, reset, or rebooted. Other possible causes are that the data cable is faulty or not properly seated in the connectors. This error indicates that the number of errors reported by a switch chip has exceeded its threshold. An EDC error indicates data was corrupted when transmitted over a link.

User Response: Consult section on Diagnosing Swith Problems and check device on the other end of the link. If it wasn't intentionally powered off, rebooted or disconnected then contact IBM Hardware service.

2510-771 A Receiver State Machine error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by hardware. Contact IBM Hardware service with the message number and text.

2510-772 A Parity Error on Data has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-773 An Incorrect Token Sequence has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-774 An Invalid Route has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-775 A Lost End-of-Packet Character has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-776 A STI Token Re-Time Request has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: An STI Token Re-Time Request has been detected by a switch chip. A likely cause for the error is that the device on the other side of the link has been powered down, reset, or rebooted.

User Response: None. The message is informational.

2510-777 A Token Count Overflow has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID*.

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-778 A Sender Link Synchronization Failure has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: A Sender link Synchronization Failure has been detected by a switch chip. A likely cause for the error is that the device on the other side of the link has been powered down, reset, or rebooted. Other possible causes are that the data cable is faulty or not properly seated in the connectors.

User Response: Consult section on Diagnosing Switch Problems and check device on the other end of the link. If it wasn't intentionally powered off, rebooted or disconnected then contact IBM Hardware support.

2510-779 A Sender State Machine error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-780 A Parity Error on Next Message Linked List has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-781 A Parity Error on Next Chunk Linked List has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-782 A Next Chunk Linked List Not Initialized error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-783 An Incorrect CRC on a Service Packet has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-784 A Parity Error in the Inbound FIFO has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-785 A Parity Error in Route Table has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-786 An Invalid Link Enable setting has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-787 A Send TOD error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: A switch chip received a service command to distribute its Time-of-Day value before it was valid.

User Response: Abnormal condition detected contact IBM Software Support.

2510-788 A Service Logic State Machine error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-789 An Incorrect Service Packet Length has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-790 A Token Error Threshold Error has been detected on the switch in: *Frame, Slot, Chip, Port, Device ID***.**

Explanation: See the message text.

User Response: Abnormal condition detected by switch hardware. Contact IBM Hardware service with the message number and text.

2510-791 An Error/Status packet with no errors indicated was present by the switch in *Frame, Slot, Chip, Port, Device ID***.**

Explanation: An Error Status packet was received from a switch chip with no errors indicated. Device ID indicated has been cleared of errors.

User Response: None. The message is informational.

2510-793 First Error Capture Register = *First Error Capture Register*

Explanation: The SP Switch First Error Capture Register bits indicate which error condition was detected by the switch chip.

User Response: Review other messages logged in the flt near the time of this entry. The First Error Capture Register is used to report errors detected by the switch.

2510-798 Disabling Switch Chip - Device ID=*device id***.**

Explanation: SP Switch chip with the specified device ID has been disabled. It is no longer an active part of the switch network. The chip either did not respond or report un-recoverable errors to the Primary fault service daemon. Switch traffic will be routed around the disabled chip.

User Response: Consult section on Diagnosing Switch Problems.

2510-810 Fault service daemon personality changed to Secondary.

Explanation: The personality of the node's fault service daemon was changed to Secondary. Logging node no longer acting as switch Primary node.

User Response: None. The message is informational.

2510-811 Fault service daemon's personality has been changed to Primary.

Explanation: Fault service daemon's personality has been changed to Primary. This node is now acting as the Primary node. For a summary of current fault service daemon personalities, run **Eprimary**.

User Response: None. The message is informational.

2510-812 Backup node starting as Primary node take-over.

Explanation: The Primary Backup node has timed-out waiting for the Primary node to contact it. The Primary Backup is starting Primary node take-over.

User Response: None. The message is informational. Eprimary can be executed to find out which nodes are designated Primary and Backup.

2510-813 Primary Backup node completed Primary node take-over.

Explanation: Primary backup node has completed Primary node take-over and is now the Primary node. For a summary of current systems fault service daemon personalities, run **Eprimary**.

User Response: None. The message is informational. Eprimary can be executed to find out which nodes are designated Primary and Backup.

2510-814 Port disable for fence of switch node number *node number* **completed.**

Explanation: The disabling of the switch port for fence has completed successfully.

User Response: None. The message is informational.

2510-815 Port enable for unfence of switch node number *switch node number* **completed.**

Explanation: The enabling of the switch port for unfencing a node has completed successfully.

User Response: None. The message is informational.

2510-816 Switch recovery timed-out waiting for an Error/Status packet from switch. Estart will be executed.

Explanation: Switch recovery timed-out waiting for an Error/Status packet. **Estart** will be executed as a recovery action.

User Response: None, because a recovery action was taken. If the message continues to get logged, contact IBM Software Support.

2510-817 A switch link or chip has been disabled internal to the network. Estart will be executed.

Explanation: A switch link or chip has been disabled internal to the network. **Estart** will be executed as a recovery action. **Estart** will update switch routing tables to avoid using disabled link or chip.

User Response: None, because a recovery action was taken. If the message continues to get logged, contact IBM Software Support.

2510-818 Switch Scan failed with a return code of *return code***. Estart will be executed.**

Explanation: The Primary fault service daemon periodically scans the switch network for errors. The scan detected a problem and as a result, **Estart** will be executed as a recovery action.

User Response: None, because a recovery action was taken. If the message continues to get logged, contact IBM Software Support.

2510-819 Changing remote node's personality to be the Primary backup failed. Return code equals *return code***. Estart will be executed.**

Explanation: The Primary fault service daemon failed trying to change a node's personality to Primary backup. **Estart** will be executed.

User Response: None, because a recovery action was taken. If the message continues to get logged, contact IBM Software Support.

2510-820 Primary's link to the switch network is not in the initialized state.

Explanation: **Estart** found that the link to switch network was un-initialize and was unable to run. The probable causes are that the node is fenced at the switch end of the link, the switch is improperly clocked, or the switch data cable is disconnected.

User Response: Use the Eprimary command to assign a new switch primary node then run Estart. If assigning a new primary does not work then running Eclock may fix the problem.

2510-821 The second phase of the switch initialization will be retried.

Explanation: The second phase of the switch initialization will be retried because of errors. The second phase of the switch initialization clears error bits and sets up service routes to the primary.

User Response: None. The message is informational.

2510-822 The second phase of the switch initialization reached retry limit. Estart failed.

Explanation: The second phase of switch initialization has reached it's retry limit. The second phase of the switch initialization clears error bits and sets up service routes to the primary. **Estart** failed.

User Response: Contact IBM Software Support.

2510-823 The fault service daemon process has exited.

Explanation: The fault service daemon process has exited.

User Response: Attempt to restart the fault service daemon by running /usr/lpp/ssp/css/rc.switch on the node. If the message continues to be logged contact IBM Software Support.

2510-824 Switch initialization will be executed.

Explanation: Switch initialization (**Estart**) will be executed.

User Response: None. The message is informational.

2510-825 Retry limit exceeded for device ID=*id*. Disabling the device.

Explanation: Retry limit for the device ID specified has exceeded the limit. The specified device will be disabled as a recovery action.

User Response: Contact IBM Hardware service.

2510-826 Device id *id* un-initialized during switch initialization. Disabling the device.

Explanation: The device ID specified was un-initialized during switch initialization. The specified device will be disabled as a recovery action.

User Response: None. The message is informational.

2510-827 Unable to set Time-Of-Day for device ID *id*. Disabling the device.

Explanation: Unable to set Time-Of-Day for the specified device. Device will be disabled as a recovery action.

User Response: None, because a recovery action was taken. If the message continues to be logged, contact IBM Software Support.

2510-828 Error register bits found on device ID *id*. Disabling the device.

Explanation: Error register bit were found for the specified device. Device will be disabled as a recovery action.

User Response: None, because a recovery action was taken. If the message continues to be logged, contact IBM Software Support.

2510-829 Device ID *id* port *port* has been disabled.

Explanation: The port on the device specified has been disabled because of an error reported by the link. This link will not be used.

User Response: None, because a recovery action was taken. If the message continues to be logged, contact IBM Software Support.

2510-893 Error found in handleFence().

Explanation: Fence failed to fence nodes.

User Response: See the section on Diagnosing Switch Problem for debugging failures.

2510-894 Error found in handleUnfence().

Explanation: Unfence failed to unfence nodes. **Estart** is executed as a recovery action.

User Response: See the section on Diagnosing Switch Problem for debugging un-fence failures.

2510-906 Scan detected a problem with device *device ID***.**

Explanation: Scan detected a problem with the specified device. "Scan" periodically check the switch for unreported errors.

User Response: Abnormal condition detected be fault service daemon, contact IBM Software Support with message number and text.

2510-913 Resigning from being Primary node.

Explanation: The Primary node was unable to scan the switch network. Therefore, it will resign from being the Primary node and let the Primary backup node takeover.

User Response: None. The message is informational.

2510-914 Number of Node timeouts exceeded threshold.

Explanation: Network Scan failed. Scan periodically checks the network for un-reported errors.

User Response: Abnormal condition detected be fault service daemon, contact IBM Software Support with message number and text.

2510-915 Number of Switch timeouts exceeded threshold.

Explanation: Network scan failed because the number of errors found during scan exceeded the threshold. Scan periodically checks the network for un-reported errors.

User Response: Abnormal condition detected be fault service daemon, contact IBM Software Support with message number and text.

2510-916 Number of Errors discovered exceeded threshold.

Explanation: Network scan failed because the number of errors found during the scan exceeded the threshold. Scan periodically checks the network for un-reported errors.

User Response: Abnormal condition detected be fault service daemon, contact IBM Software Support with message number and text.

2510-917 Number of disabled Links exceeded threshold.

Explanation: Network scan failed because the number of disabled links found during scan exceeded the threshold.

User Response: Abnormal condition detected be fault service daemon, contact IBM Software Support with message number and text.

2510-918 Interrupt Error Register = *TB3 Interrupt Error Register***.**

Explanation: The switch adapters Interrupt Error Register bits indicate which error conditions were detected by the adapter.

User Response: None. The message is informational.

2510-919 Bad Device Signature detected. Device id = *device ID***.**

Explanation: A switch chip incorrect selftest signature was detected during switch initialization or recovery. Any new or replaced switch should be suspected of causing this error.

User Response: Abnormal condition, contact IBM Hardware service.

2510-921 Time-out occurred waiting for pending Error/Status packet.

Explanation: Time-out waiting for response from device, during switch recovery or initialization.

User Response: None, because a recovery action was taken. If the message continues to get logged, contact IBM Software Support.

2510-922 Detected failure of intermediate port *port number jack number* **of chip** *chip ID* **on the switch in slot** *slot number* **of frame** *frame number***.**

Explanation: Switch recovery has detected a failure with a switch-to-switch link/port/cable. **Estart** is executed as a recovery action.

User Response: None, because a recovery action was taken. If the message continues to get logged, contact IBM Software Support.

2510-925 Retry limit for Time-Of-Day synchronization exceeded.

Explanation: Retry limit for Time-Of-Day synchronization exceeded. Switch clock may not be synchronized and switch is not initialized.

User Response: Abnormal condition, contact IBM Hardware support.

Chapter 54. 2511 - Switch Table Support Messages

2511-100 Could not get node names from the SDR, get_node_names() failed.

Explanation: The get_node_names function returned -1. An error occurred accessing the SDR.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-101 Received unknown return code (*return_code*) from st_status API.

Explanation: The **st_status** API returned an undefined return code.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-102 Please specify only one -n flag.

Explanation: The **-n** flag was specified more than once on the command line.

User Response: Issue the command again with correct syntax.

2511-103 The specified flag *invalid_flag* is not valid.

Explanation: A flag that was not valid was specified on the command line.

User Response: Issue the command again with correct syntax.

2511-104 Node group *node_group_name* returned an empty hostnameList.

Explanation: The node group name *node_group_name* specified had no members defined for it.

User Response: Issue the command again with a valid node group name.

2511-105 Please specify -n without additional node_names.

Explanation: The **-n** node group name was specified with other standalone node names.

User Response: Issue the command again with correct syntax.

2511-106 The get_node_ip_addr() call failed trying to access the Adapter class within the SDR.

Explanation: The **get_node_ip_addr** call failed to read the **Adapter** class within the SDR.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information. Perform standard SDR problem determination.

2511-107 Node group *node_group_name* does not exist.

Explanation: The specified node group name was not found by **SpNodeGroup Contains**.

User Response: Issue the **nglist** command to get valid node group names and issue the **st_status** command again.

2511-108 Unable to activate node group *node_group_name*.

Explanation: The **nodegroup.activate** call failed.

User Response: Validate the node group exists, and check to see if the **ngresolve** command works. Otherwise, contact the IBM Support Center.

2511-109 Unable to initialize Perspectives. Cannot process node group.

Explanation: The **SpAppEnv::Initialize()** call failed.

User Response: Investigate perspectives diagnostic and recovery steps.

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2511-110 The get_sdrinfo() call failed. Unable to resolve node names.

Explanation: The **get_sdrinfo()** call failed.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-200 connect_st failed for *nodeinfo.st_node_name***.**

Explanation: Could not connect to the st_node_name *nodeinfo.st_node_name* specified.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-201 writestr failed for socket *socket_number***.**

Explanation: The **writestr()** call failed while trying to write to this socket.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-202 Wrong message type received from daemon : msg_type=*message_type***.**

Explanation: A message type that was not valid was received over the socket.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-203 The st_clean_table request for node *nodeinfo.st_node_name* **failed with rc=***return_code***.**

Explanation: The **st_clean_table** API returned with the return code *return_code* specified.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information. The return codes are specified within the **st_client.h** header file.

2511-204 readstr failed for socket *socket_number***.**

Explanation: The **readstr()** call failed while trying to read from this socket.

User Response: Check the **/var/adm/SPlogs/st/st_log** for more information.

2511-205 The node or address specified (*nodeinfo.st_node_name***) is not valid.**

Explanation: Either a node name or IP address that was not valid was specified.

User Response: Issue the command again with a valid name or address.

2511-206 Effective user id must be root to execute.

Explanation: A non-root user tried to execute the command.

User Response: Issue command again as root.

2511-207 Unknown system security level (*sec_level_variable***).**

Explanation: This code path should never be traveled. The sec_level variable *sec_level_variable* should always be "none" until DCE is implemented.

User Response: Report to the IBM Support Center.

2511-208 Error getting port number for the switchtbld.

Explanation: The **getservbyname** system call failed to get the port number for the switchtbld from the **/etc/services** directory.

User Response: Update the **/etc/services** with the correct switchtbld entry.

2511-209 No window id was specified.

Explanation: No window id was specified with the **-w** flag.

User Response: Reissue the command with the correct syntax.

2511-300 Directory *directory_name* **does not exist** *...FAIL*.

Explanation: The directory listed was not found on this system.

User Response: Investigate the installation errors and install again. Check to make sure that the **ssp.st** fileset was installed.

2511-301 File *file_name* **does not exist** *...FAIL*.

Explanation: The file name *file_name* was not found on this system.

User Response: Investigate the installation errors and install again. Check to make sure that the **ssp.st** fileset was installed.

2511-302 Link *link_name* **does not exist** *...FAIL*.

Explanation: The link name listed was not found on this system.

User Response: Investigate the installation errors and install again. Check to make sure that the **ssp.st** fileset was installed.

2511-303 Port number for switchtbld in *file_name* **is not** *port_address ...FAIL*.

Explanation: The port address defined for the switchtbld was not defined in the file name *file_name*.

User Response: Investigate the installation errors and install again. Check to make sure that the **ssp.st** fileset was installed.

2511-304 Entry for switchtbld does not exist in *file_name ...FAIL*.

Explanation: The switchtbld entry does not exist within the reported file *file_name*.

User Response: Investigate the installation errors and install again. Check to see that the **ssp.st** fileset was installed.

2511-305 Unable to verify *object_name ...FAIL*.

Explanation: Tried to check an unknown object *object_name*. This should be a file name, directory name or link name.

User Response: Issue the **st_verify** command again, and if it fails again, report it to the IBM Support Center.

Chapter 55. 2520 - Group Services Messages

2520-201 Cannot remove service entry *service_name* **from** *services_file***.**

Explanation: Either the service name *service_name* was not found in the services-file, or the service name *service_name* could not be removed from the services file. The /**tmp** directory or the file system containing the services file *service_file* could be full.

User Response: Add the service name before deleting it, or ensure that the file systems are not full.

2520-202 Cannot determine node number.

Explanation: On the SP, every node has it's node number stored in the ODM at install time. This node number could not be retrieved.

User Response: The node must be installed again.

2520-203 Cannot determine syspar name.

Explanation: The system partition for this node could not be determined. The most likely cause is that the SDR could not be reached.

User Response: Validate that the SDR is running and is reachable.

2520-204 Cannot determine the IP address or code version for system partition *syspar_name***.**

Explanation: On the SP, every node should be in one system partition. The node you ran the command on is in syspar syspar name *syspar_name*, but vital information, such as the IP address or code version, cannot be determined. The **SDRGetObjects -x -G Syspar syspar_name==syspar-name ip_address code_ve** command failed.

User Response: Validate that the SDR is running and is reachable. Properly configure the system partition, and try the command again.

2520-205 Port number not found for subsystem *subsystem_name***.**

Explanation: The SDRGetObjects Syspar_ports subsystem==subsystem name port command failed.

User Response: Run this command on the CSW in the partition to which this node belongs, and try the command again on the node.

2520-206 Cannot register service *service_name***, protocol** *protocol***, port** *port_number***.**

Explanation: The subsystem being installed by the named command was not able to install the specified service name *service_name* protocol *protocol* port number *port_number* in the /**etc**/**services** directory, which is required for the subsystem to operate.

User Response: If there is a port number specified in the error message, verify that this port number is not being used by another subsystem. If no port number is specidfied in the error message, all of the port numbers that this command selected were already in use.

2520-207 *daemon_file_name* **is not executable.**

Explanation: The daemon file name *daemon_file_name* must be an executable file to allow the subsystem being installed by the named command to operate, and the daemon file name *daemon_file_name* may also not exist.

User Response: As root, run **chmod +x***daemon_file_name* and try the command again, or run **installp** again to install the subsystem.

2520-208 The *subsystem_name* **subsystem must be stopped.**

Explanation: The subsystem name *subsystem_name* must be stopped to allow the named command to operate on it.

User Response: As root, run **stopsrc -s** *subsystem_name* and try the command again.

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2520-209 Could not add *subsystem_name* to *resource_controller*.

Explanation: The named command failed in defining the subsystem name *subsystem_name* to the resource controller *resource_controller*. If the resource controller is inittab, mkitab subsystem name failed. If resource controller is SRC, mkssys -s subsystem name failed.

User Response: Fix what caused the resource controller command listed above to fail and try the command again.

2520-210 Cannot create object in *SDR_object_class_name* for *object_attributes*.

Explanation: The named command failed to create an object in the SDR class *SDR_object_class_name* with the attributes specified by *object_attributes*.

User Response: The failing command generates an error message, which is displayed prior to this message. Correct the problem indicated by the prior message and run this command again.

2520-211 Internal error.

Explanation: The named command encountered an internal error.

User Response: Contact the IBM Support Center.

2520-901 Cannot open message file *message_map_file*. Catalog is *message_catalog*, message set is *message_set*.

Explanation: The requested message cannot be displayed because the message map file *message_map_file* cannot be opened. The most likely cause is a set of parameters to the **spdspmsg** command are not valid. The message map file *message_map_file* is **<message-catalog>.<message-set>.map**, and it should be located in **/usr/lpp/ssp/msgmaps**.

User Response: Ensure the proper parameters were passed to **spdspmsg**, and ensure the message map file *message_map_file* is in the proper place by installing the invoking **lpp** again.

2520-902 Message *message* not found in message map file *message_map_file* Catalog is *message_catalog*, message set is *message_set*.

Explanation: The requested message cannot be found in the message map file *message_map_file*, and therefore cannot be properly displayed. The most likely cause is a set of parameters to the **spdspmsg** command are not valid. The message map file is **<message-catalog>.<message-set>.map**, and it should be located in **/usr/lpp/ssp/msgmaps**.

User Response: Ensure the proper parameters were passed to **spdspmsg**, and that the message map file *message_map_file* is in the proper place by installing the invoking **lpp** again.

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2521-000 The trace argument *trace_argument* is not valid.

Explanation: A trace argument that is not valid was specified to the named program.

User Response: Specify a valid trace argument. See the documentation for the named program.

2521-001 The *option_flag* flag requires an argument.

Explanation: The named option flag *option_flag* did not have a required option argument.

User Response: Specify a valid option argument. See the documentation for the named program.

2521-002 Undefined option flags specified.

Explanation: Undefined option flags were specified to the named program.

User Response: See the documentation for the named program for valid option flags.

2521-003 Cannot obtain node number.

Explanation: The named program cannot obtain the number of the node upon which it is processing.

User Response: Validate that the node number has been set and that **/usr/lpp/ssp/install/bin/node_number** exists and is executable.

2521-004 System partition IP address argument is missing.

Explanation: When executing on the control workstation, the named program requires that the IP address of a system partition be specified as an argument to the program.

User Response: Refer to the documentation for the named program.

2521-005 SPMI subroutine *SPMI_subroutine* failed with error *SPMI_error_number* - *SPMI_error_message*.

Explanation: The named program uses the System Performance Measurement Interface (SPMI) from the Performance Toolbox for AIX Agent. The named SPMI subroutine *SPMI_subroutine* failed with the specified error number *SPMI_error_number* and message *SPMI_error_message*

User Response: Refer to the documentation for the Performance Toolbox for AIX Agent for an explanation of the error. If the problem cannot be resolved using the documentation, contact the IBM Support Center.

2521-006 System call *system_call* failed with error *error_number* - *error_message*.

Explanation: The named system call *system_call* failed with the specified error number *error_number* and message *error_message* when invoked by the named program.

User Response: Contact the IBM Support Center.

2521-007 Internal error (*additional_error_information*).

Explanation: The named program encountered an internal error.

User Response: Contact the IBM Support Center.

2521-008 Internal error (*error_info1*; *error_info2*).

Explanation: The named program encountered an internal error.

User Response: Contact the IBM Support Center.

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2521-009 Cannot make directory *directory_name*, mkdir() error is *error_number* - *error_message*.

Explanation: The named program attempted to create the specified directory *directory_name* using the **mkdir()** system call. The system call failed with the named error *error_number*.

User Response: If possible, correct the condition that resulted in the error, such as missing directories in the path of the directory to be created, and start the Event Management daemon again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*. If the problem cannot be corrected contact the IBM Support Center.

2521-010 Cannot open or create *file_name*, open() error is *error_number* - *error_message*.

Explanation: The named program attempted to open or create create the specified file *file_name* using the **open()** system call. The system call failed with the named error *error_number*.

User Response: If possible, correct the condition that resulted in the error and start the Event Management daemon again (if it has ended). Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding the specified file. If the problem cannot be corrected contact the IBM Support Center.

2521-011 Cannot open a session with the SDR, error is *error_message*.

Explanation: The named program attempted to establish a session with the System Data Repository. The attempt failed due to the specified error *error_message*.

User Response: If possible, correct the condition that resulted in the error and start the Event Management daemon again. If the problem cannot be corrected, contact the IBM Support Center.

2521-012 Cannot get objects from the SDR class *class_name* error is *error_message*.

Explanation: The named program attempted to get objects from the specified SDR class. The attempt failed due the the specified error.

User Response: If possible, correct the condition that resulted in the error and start the Event Management daemon again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*. If the problem cannot be corrected contact the IBM Support Center.

2521-013 Cannot get attribute *attribute_name* from object in SDR class *class_name*, error is *error_message*.

Explanation: The named program attempted to get the named attribute *attribute_name* from an object in the specified SDR class *class_name*. The attempt failed due to the specified error *error_message*.

User Response: If possible, correct the condition that resulted in the error and start the Event Management daemon again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*. If the problem cannot be corrected contact the IBM Support Center.

2521-014 Unexpected type for attribute *attribute_name* from object in SDR class *class_name* (*expected_attribute_type*).

Explanation: The type of the named attribute *attribute_name* from an object in the specified SDR class *class_name* does not match the specified expected attribute type *expected_attribute_type*.

User Response: If possible, correct the condition that resulted in the error and start the Event Management daemon again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*. If the problem cannot be corrected contact the IBM Support Center.

2521-015 Event Manager configuration database version mismatch (*expected_version_string*; *data_base_version_string*).

Explanation: The version of the Event Manager Configuration Database (EMCDB) read by the Event Manager daemon is not the expected version.

User Response: Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

2521-016 Event Manager configuration database checksum error.

Explanation: The version of the EMCDB read by the Event Manager daemon produced a checksum error.

User Response: The EMCDB has become corrupted. Remove the file **/etc/ha/cfg/em.syspar_name.cdb** on the node where this error occurred, where *syspar_name* is the name of the system partition of the node. If this occurs on the control workstation, the error message indicates the system partition of the daemon that produced this message. After the file is removed, start the Event Management daemon again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information about the EMCDB.

2521-017 Cannot connect to resource monitor *resource_monitor_name* **error** *error_number* **-** *error_message***.**

Explanation: The Event Manager daemon could not connect to the named resource monitor *resource_monitor_name*.

User Response: Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor. Also, examine the error log for any error messages from the named resource monitor.

2521-018 Resource monitor *resource_monitor_name* **terminated due to signal** *signal_number***.**

Explanation: The named resource monitor *resource_monitor_name* terminated as a result of receiving the specified signal *signal_number*.

User Response: Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor. Also, examine the error log for any error messages from the named resource monitor.

2521-019 Resource monitor *resource_monitor_name* **terminated with exit code** *exit_code***.**

Explanation: The named resource monitor *resource_monitor_name* terminated with the specified exit code *exit_code*.

User Response: Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor. Also, examine the error log for any error messages from the named resource monitor.

2521-020 Command based resource monitor terminated early.

Explanation: A command based resource monitor connected to the Event Manager daemon, but terminated without sending data to the daemon.

User Response: Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor.

2521-021 Corrupted registration cache file (*additional_error_information*).

Explanation: A file used to cache event registration requests has become corrupted.

User Response: Contact the IBM Support Center.

2521-022 Cannot get port number for *service_name*.

Explanation: A port number for the specified service name *service_name* cannot be obtained from the /**etc**/**services** file.

User Response: Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

2521-023 Cannot initialize Group Services (*error_code*).

Explanation: Event Management could not initialize Group Services, due to the specified error code *error_code* returned from Group Services.

User Response: Contact the IBM Support Center.

2521-024 Received *count_of_unrecognized_message* unrecognized messages in last *time* minutes.

Explanation: The Event Management daemon has received the specified number of unrecognized messages *count_of_unrecognized_message* within the specified time *time* interval. These messages were received on the UDP port used for communication among Event Management daemons. The most likely cause of this error is that this port number is being used by another application.

User Response: Validate that the port number configured for use by the Event Management daemon is only being used by the Event Management daemon. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

2521-025 Cannot copy *file_name* from control workstation, return code is *error_code*.

Explanation: Event Management could not copy the named Event Management configuration database (EMCDB) file *file_name* from the control workstation to the node. The error code *error_code* indicates the failure cause.

User Response: If the return code is 3, the copy process could not obtain a Kerberos ticket granting ticket using the **rcmdtgt** command. Examine the file /**var**/**ha**/**log**/**em.default.syspar_name**, where *syspar_name* is the name of the system partition of the node, for further error information. If this error occurs on the control workstation, the error message indicates the system partition of the daemon that produced this message.

If the return code is 4, then the copy process failed in the **rcp** command. Examine /**var**/**ha**/**log**/**em.default.syspar_name** for further information.

If the return code is greater than 100, the copy process was ended by the signal number given by (return code - 100). Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding the copy process.

If the return code is anything other than what has been described here, contact the IBM Support Center.

2521-026 Cannot read *file_name*, read() error is *error_number* - *error_message*.

Explanation: The named program attempted to read the specified file *file_name* using the **read()** system call. The system call failed with the named error *error_number*. An error number of 0 indicates that the **read()** call ended with a short count. For example, the named file *file_name* did not contain as much data as was expected.

User Response: If possible, correct the condition that resulted in the error and start the Event Management daemon again (if it has ended). Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding the specified file. If the problem cannot be corrected contact the IBM Support Center.

2521-027 Socket connection type *socket_type* rejected, too many open descriptors.

Explanation: Event Management rejected a socket connection of the indicated type due to insufficient available file descriptors:

- Type 'C': connection from client
- Type 'R': connection from/to resource monitor
- Type 'H': connection to Host Respond daemon.

User Response: End unnecessary Event Management client applications. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide*.

2521-028 Resource monitor *resource_monitor_name* added unregistered instance of variable *resource_variable_name*.

Explanation: The named resource monitor attempted to add an instance of the named resource variable that has not been registered to the Event Management session. This indicates a programming error in the resource monitor.

User Response: Event Management clients should refrain from referencing this resource variable until the resource monitor has been corrected. Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor.

2521-029 Resource monitor *resource_monitor_name* added duplicate instance of variable *resource_variable_name*.

Explanation: The named resource monitor attempted to add an instance of the named resource variable that has already been added to its Event Management session. This indicates a programming error in the resource monitor.

User Response: Event Management clients should refrain from referencing this resource variable until the resource monitor has been corrected. Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor.

2521-030 Resource monitor *resource_monitor_name* added unsolicited instance of variable *resource_variable_name*.

Explanation: The named resource monitor attempted to add an instance of the named resource variable that has not been requested by the Event Management session. This indicates a programming error in the resource monitor.

User Response: Event Management clients should refrain from referencing this resource variable until the resource monitor has been corrected. Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor.

2521-031 Resource monitor *resource_monitor_name* deleted unsolicited instance of variable *resource_variable_name*.

Explanation: The named resource monitor attempted to delete an instance of the named resource variable that has not been requested by the Event Management session. This indicates a programming error in the resource monitor.

User Response: Event Management clients should refrain from referencing this resource variable until the resource monitor has been corrected. Contact the IBM Support Center if the named resource monitor is supplied by IBM. Otherwise, contact the vendor that supplied the resource monitor.

2521-032 Cannot dispatch group services (*group_services_return_code*).

Explanation: The Event Management daemon could not dispatch the Group Services function: the ha_gs_dispatch() function returned a non-zero value.

User Response: The Event Management daemon should have ended and then restarted. Check the Group Services Subsystem for errors.

2521-033 Peer daemon on node N is not responding to Group Services.

Explanation: The Event Management daemon on the specified node has not responded to a Group Services "ping" within 120 seconds.

User Response: The Event Management daemon on the specified node should eventually terminate and then be restarted. If it does not, the administrator must terminate the non-responsive daemon (using the kill command) and release shared memory resources used by Event Management on the specified node. Refer to "Resource Monitors and PTX Shared Memory" in the PSSP Event Management Programming Guide and Reference for more information on releasing shared memory resources. Until the daemon on the specified node is terminated, no other Event Management daemons can join the Event Management peer group and provide Event Management services.

2521-034 Not responding to Group Services - terminating.

Explanation: The Event Management daemon has been informed that it has not responded to a Group Services "ping" within 120 seconds. The daemon is terminating so that it can be restarted automatically.

User Response: Contact the IBM Support Center.

2521-400 Error obtaining node number.

Explanation: The program was unable to determine the node number it was running on.

User Response: Validate that the node number has been set and that **/usr/lpp/ssp/install/bin/node_number** exists and is executable.

2521-401 This utility must be executed on the Control Workstation if the -n flag is not used.

Explanation: You must run this command on the control workstation to generate a production EMCDB. To create a EMCDB on a node, use the **-n** flag.

User Response: Run the command again on the control workstation or use the **-n** flag.

2521-402 Unable to open an SDR session. *SDR_function* **returned error** *SDR_error_number***.**

Explanation: The command was unable to open a session with the SDR. The failing SDR function and return code are displayed.

User Response: Correct the condition that resulted in the error and run the command again. If the problem cannot be corrected contact the IBM Support Center.

2521-403 Unable to get *SDR_object_class_name* **class object(s) from the SDR.** *SDR_function* **returned error** *SDR_error_number***.**

Explanation: The command was not able to get an object from the named SDR class. The failing SDR function and return code are displayed.

User Response: If the named object class is Syspar, refer to the *IBM Parallel System Support Programs for AIX: Administration Guide* for information about this class. If the named object class is **EM_Resource_Monitor**, refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* for information regarding the use of objects from this SDR class. Also refer to the Event Management Subsystem chapter in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding the loading of this object class.

2521-404 The syspar_name attribute is not defined as an sdrString.

Explanation: The **syspar_name** attribute of the **Syspar** object for the current partition was not stored as a string value.

User Response: Contact the IBM Support Center.

2521-405 The rmPath attribute value *monitor_path* of the EM_Resource_Monitor object *monitor_name* is not an absolute path.

Explanation: The **rmPath** attribute of the resource monitor object must be an absolute path to the monitor.

User Response: Change the attribute in the SDR to be an absolute path.

2521-406 Undefined rmConnect_type attribute value *attribute_value* for the EM_Resource_Monitor object *monitor_name*.

Explanation: The **rmConnect_type** attribute of the resource monitor object is not valid.

User Response: Change the attribute in the SDR to an allowable value.

2521-407 Unable to get *object_class_name* class object(s) for Monitor *monitor_name* from the SDR.

Explanation: The command was not able to get a required object from the named class for the resource monitor.

User Response: Check to see that the required data is in the SDR for the monitor. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding this object class.

2521-408 Unable to get *object_class_name* class object(s) for Resource Class *resource_class_name* from the SDR.

Explanation: The command was not able to get a required SDR object for the resource class.

User Response: Check to see that the required data is in the SDR for the class. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding this object class.

2521-409 Unable to get *object_class_name* class object(s) for Variable *variable_name* from the SDR. *SDR_function* returned error *SDR_return_code*.

Explanation: The command was not able to get a required SDR object for the resource variable.

User Response: Check to see that the required data is in the SDR for the variable. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information regarding this object class.

2521-410 Non-unique crc id value generated from variable name *variable_name*.

Explanation: A collision occurred when generating an internal id for the variable. The internal id must be unique.

User Response: Change the name of the variable. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-411 Duplicate variable name *variable_name*.

Explanation: Two variables have the same name. Variable names must be unique.

User Response: Change the name of the variable. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-412 Undefined *attribute_name* **attribute value** *value* **for the EM_Resource_Variable object** *variable_name***.**

Explanation: The value found in the SDR for the resource variable attribute was not valid.

User Response: Change the value of the variable attribute to an allowable value. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-413 Unable to convert initial value for variable *variable_name***.**

Explanation: The initial value found in the SDR for the resource variable could not be converted to a float or long value.

User Response: Correct the value in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-414 The rvLocator and rvIndex_vector attributes cannot be identical for variable *variable_name***.**

Explanation: The **rvLocator** and **rvIndex_vector** attributes of the variable cannot be the same value.

User Response: Correct the values in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-415 Insufficient number of instance vectors defined for variable *variable_name***.**

Explanation: There where not enough **EM_Instance_Vector** objects found for this variable to satisfy it's requirements.

User Response: Add or change the vector or variable object as needed. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-416 Error parsing predicate at position *position* **for variable** *variable_name***.**

Explanation: An error occurred while parsing the predicate for the variable.

User Response: Review the predicate's syntax and correct in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-417 Illegal structure of resource variable name *resource_variable_name***.**

Explanation: The specified resource variable name does not conform to the structure **resource_name.resource_attribute**.

User Response: Specify a valid resource variable name. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-418 No match for PTX component name *PTX_component_name* **in instance vector for variable** *variable_name***.**

Explanation: There was no instance vector object found for the instantiable component of the variable's PTX name. Each portion of the PTX name that begins with a **$** must have a corresponding EM_Instance_Vector object defined.

User Response: Add or change the vector or variable object as needed. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-419 Reserved message ID.

Explanation: A reserved message ID was displayed.

User Response: Contact the IBM Support Center.

2521-420 The *attribute_name* **(rvLocator or rvIndex_vector) attribute value** *value* **of variable** *variable_name* **does not match any instance vector element.**

Explanation: The attribute value of either **rvLocator** or **rvIndex_vector** must match an EM_Instance_Vector object defined for this variable.

User Response: Correct the attribute value. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-421 The SBS serial number must be in the range 0-*SBS_serial_number* **for variable** *variable_name***.**

Explanation: SBS serial numbers must be in the range stated. A SBS *serial_number* for the variable was out of the required range.

User Response: Correct the definition of the SBS. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-422 Duplicate SBS serial number *SBS_serial_number* **found for variable** *variable_name***.**

Explanation: SBS serial numbers must start at 0 and be contiguous and unique for each variable. A duplicate value was found for the variable.

User Response: Correct the definition of the SBS. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-423 Undefined field type *field_type_in_SDR* **for SBS field** *SBS_field_name* **of variable** *variable_name***.**

Explanation: The SBS field type for the SBS field for the variable was not an allowable value.

User Response: Update the structured byte field definitions for this field with an allowable value. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-424 SBS serial numbers for variable *variable_name* **must start with 0.**

Explanation: SBS serial numbers must start at 0 and be contiguous and unique for each variable. Did not find a serial number of 0 for this variable.

User Response: Update the structured byte field definitions for this variable so that the serial numbers start at 0 and are contiguous. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel*

System Support Programs for AIX: Administration Guide for more information.

2521-425 realloc() failed for *number_of_bytes* **bytes.**

Explanation: The **realloc()** system call failed when trying to realloc the number of bytes.

User Response: Contact the IBM Support Center.

2521-426 malloc() failed for *number_of_bytes* **bytes.**

Explanation: The **malloc()** system call failed when trying to allocate the number of bytes.

User Response: Contact the IBM Support Center.

2521-427 Illegal initial long value for SBS field *SBS_field_name* **of variable** *variable_name***.**

Explanation: The initial long value in the SDR for the SBS field for the variable was not valid and could not be converted to a long value.

User Response: Correct the value in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-428 Error converting initial float value *value* **for SBS field** *SBS_field_name* **of variable** *variable_name***.**

Explanation: The initial float value in the SDR for the SBS field for the variable could not be converted to a float value.

User Response: Correct the value in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-429 Illegal initial float value for SBS field *value* **of variable** *SBS_field_name***.**

Explanation: The initial float value in the SDR for the SBS field for the variable was not valid and could not be converted to a float value.

User Response: Correct the value in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-430 Illegal octal constant in value for SBS field *SBS_field_name* **of variable** *variable_name*

Explanation: An octal constant in the initial value in the SDR for the SBS field for the variable was not valid.

User Response: Correct the initial SBS value in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-431 Octal constant value too large in value for SBS field *SBS_field_name* **of variable** *variable_name***.**

Explanation: An octal constant in the initial value in the SDR for the SBS field of the variable was greater than the maximum allowed value.

User Response: Correct the initial SBS value in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-432 Cannot find attribute *attribute_name***.**

Explanation: The required attribute was not found in the SDR.

User Response: Check that all objects in the SDR that require the attribute have values entered correctly in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-433 Attribute *attribute_name* **must be of type** *type***.**

Explanation: The attribute was not stored as the correct type in the SDR.

User Response: Contact the IBM Support Center.

2521-434 Unable to read header information from current EMCDB file *EMCDB_file_name***.**

Explanation: An error occurred while trying to read the current EMCDB database file.

User Response: The EMCDB has become corrupted. Remove the named file from the node where this error occurred. After the file is removed, run the named command again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information about the EMCDB.

2521-435 Unable to open current EMCDB file *EMCDB_file_name***:** *open()_error_string***(***errno***).**

Explanation: An error occurred while trying to open the current EMCDB file.

User Response: If the error indicated by the error information cannot be corrected, remove the named file from the node where this error occurred. After the file is removed, run the named command again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information about the EMCDB.

2521-436 Unable to create EMCDB file *EMCDB_file_name***:** *open()_error_string* **(***errno***.).**

Explanation: An error occurred while trying to create the new EMCDB file.

User Response: Attempt to correct the error specified by the error information and run the named command again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information about the EMCDB. If the error cannot be corrected, contact the IBM Support Center.

2521-437 Unable to map EMCDB file *EMCDB_file_name***:** *shmat()_error_string* **(***errno***).**

Explanation: An error occurred while trying to memory map the new EMCDB file.

User Response: Contact the IBM Support Center.

2521-438 No data found for EMCDB section *EMCDB_section_name***.**

Explanation: No data was found in the SDR for the required EMCDB file section.

User Response: Check that all required Event Management objects have been entered into the SDR for the current partition. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-439 Unable to rename EMCDB file *old_EMCDB_file_name* **to** *new_EMCDB_file_name***.**

Explanation: The command was unable to rename the EMCDB file.

User Response: Attempt to correct the error specified by the error information and run the named command again. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for information about the

EMCDB. If the problem cannot be corrected, contact the IBM Support Center.

2521-440 Cannot change *attribute_name* **attribute in Syspar class for partition** *partition_name***.** *SDR_function* **returned error** *SDR_return_code***.**

Explanation: The command was not able to update the attribute value of the Syspar object. The failing SDR function and return code are displayed.

User Response: If the specified error cannot be corrected, contact the IBM Support Center.

2521-441 Illegal description message ID string *message_ID_string***.**

Explanation: The message ID string in the SDR is not valid.

User Response: Correct the message ID string in the SDR. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-442 The number of message IDs is incorrect for the number of PTX components for variable *variable_name***.**

Explanation: There are too many or too few message IDs to describe the PTX contexts of the variable.

User Response: Correct the message ID string in the SDR for the named variable. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-443 Internal overflow of table *table_name***.**

Explanation: An internal storage table overflowed.

User Response: Save the message and contact the IBM Support Center.

2521-444 Unable to create dump table *table_name***.**

Explanation: An error occurred when creating an internal storage table.

User Response: Save the message and contact the IBM Support Center.

2521-445 No last context found for statistic *variable_name***.**

Explanation: No last context was found for the named statistic.

User Response: Contact the IBM Support Center.

2521-446 No variable found for statistic *variable_name***.**

Explanation: An internal variable representation was not found for the statistic.

User Response: Contact the IBM Support Center.

2521-447 Context path too long: *context_path***.**

Explanation: The context path length of a variable is greater than the allowed maximum.

User Response: Correct the PTX path for the variable to an allowable limit. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-448 The serial numbers for SBS variable *variable_name* are not contiguous.

Explanation: SBS serial numbers must start at 0 and be contiguous and unique for each variable.

User Response: Update the structured byte field definitions for this variable so that the serial numbers are contiguous. Refer to the *IBM Parallel System Support Programs for AIX: Event Management Programming Guide and Reference* and the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* for more information.

2521-449 Non-unique crc value generated from path *variable_path_name*.

Explanation: An internal collision occurred when generating an internal id value for the variable path.

User Response: Contact the IBM Support Center.

2521-450 No variable found for wild card path *variable_path_name*.

Explanation: An internal error occurred when trying to locate a variable associated with the path name.

User Response: Contact the IBM Support Center.

2521-451 The value of attribute *attr_name* must be a non-NULL string.

Explanation: The specified attribute had a NULL string value. It must be non-NULL.

User Response: Check that all objects in the SDR which require the attribute have values entered correctly in the SDR. Refer to the PSSP Event Management Programming Guide and Reference and the Event Management Subsystem chapter in the PSSP Administration Guide for more information.

2521-452 Not all vector elements defined for the variable *var_name* are specified in the PTX name.

Explanation: For a variable that is of value type Counter or Quantity, each instance vector element name (except an element name specified in the rvLocator attribute of the variable definition) must be specified as a component of the PTX name specified by the rvPTX_name attribute of the variable definition.

User Response: Check the value of the rvPTX_name attribute for the specified variable. Refer to the PSSP Event Management Programming Guide and Reference and the Event Management Subsystem chapter in the PSSP Administration Guide for more information.

2521-453 The resource monitor *resmon_name* is specified with a connection type of 'client'; its variable *var_name* must be of value type 'State', not *illegal_value_type*.

Explanation: A variable defined for a resource monitor of type **client** must be of value type **State**.

User Response: Correct the value type for the specified variable. Refer to the PSSP Event Management Programming Guide and Reference and the Event Management Subsystem chapter in the PSSP Administration Guide for more information.

2521-454 The PTX name specified for the variable *var_name1* is a duplicate of the PTX name specified for the variable *var_name2*.

Explanation: The PTX name specified for variable name 1 is a duplicate of the PTX name specified by variable name 2. PTX names must be unique.

User Response: Check the value of the rvPTX_name attribute for the specified variables. Refer to the PSSP Event Management Programming Guide and Reference and the Event Management Subsystem chapter in the PSSP Administration Guide for more information.

2521-501 Cannot remove service entry *service_name* **from** *services_file***.**

Explanation: Either the service name was not found in the services file, or the service name could not be removed from the services file. The /**tmp** directory or the file system containing the services file could be full.

User Response: Add the service name before deleting it, or ensure that the file systems are not full.

2521-502 Cannot determine node number.

Explanation: On the SP, every node has it's node number stored in the ODM at installation. This node number could not be retrieved!

User Response: Validate that the node number has been set and that /**usr/lpp/ssp/install/bin/node_number** exists and is executable.

2521-503 Cannot determine syspar name.

Explanation: The system partition for this node could not be determined. The most likely cause is that the SDR could not be reached.

User Response: Validate that the SDR is running and is reachable.

2521-504 Cannot determine the IP address for system partition *syspar_name***.**

Explanation: The system partition IP address for this node could not be determined. The most likely cause is that the SDR could not be reached.

User Response: Validate that the SDR is running and is reachable.

2521-505 Port number not found for subsystem *subsystem_name***.**

Explanation: The port number required by this subsystem could not be found in the SDR object class **Syspar_ports**. The most likely cause is that this command has not yet been run on the control workstation.

User Response: Run this command on the control workstation in the partition that this node belongs in. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* and the manpage for this command for more information.

2521-506 Cannot register service name *service_name***, protocol** *protocol***, port** *port_number***.**

Explanation: The subsystem being installed by the command was not able to install the specified service name, protocol, port number in /**etc/services**, which is required for the subsystem to operate.

User Response: If there is a port number specified in the error message, verify that this port number is not being used by another subsystem. If a port number is not specified in the error message, all of the port numbers that this command selected were already in use. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* and the manpage for this command for more information.

2521-507 *daemon_file_name* **is not executable.**

Explanation: The daemon file name must be an executable file to allow the subsystem being installed by the command to operate, or the daemon file name may also not exist.

User Response: As root, run **chmod +x daemon_file_name** and try the command again. Or run **installp** again of the **ssp.ha** option of the PSSP package to install the subsystem again.

2521-508 The *subsystem_name* **subsystem must be stopped.**

Explanation: The subsystem must be stopped to allow the command to operate on it.

User Response: As root, run **stopsrc -s** *subsystem_name* and try the command again.

2521-509 Could not add *subsystem_name* **to** *resource_controller***.**

Explanation: The command failed when defining the subsystem to the resource controller. If the resource controller is **inittab**, **mkitab** *subsystem_name* failed. If the resource controller is SRC, **mkssys -s** *subsystem_name* failed.

User Response: Fix whatever caused the resource controller command listed above to fail and try the command again.

2521-510 Cannot create object in *SDR_object_class_name* **for** *Object_attributes***.**

Explanation: The command failed when creating an object in the SDR class with the attributes specified.

User Response: An error message is displayed prior to this message by the failing SDR command. Correct the problem indicated by the prior message and then run this command again.

2521-511 Internal error.

Explanation: The command encountered an internal error.

User Response: Contact the IBM Support Center.

2521-512 Cannot load SDR with configuration data.

Explanation: The command failed in loading the SDR with Event Management configuration data.

User Response: The file **/var/ha/log/em.loadcfg.SYSPAR** (where SYSPAR is the name of the system partition in which Event Management is being added) contains loadsdr command error messages. The last message in this file corresponds to the error that caused this command to fail. Correct the problem indicated by this last error message. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* and the manpage for this command for more information.

2521-513 Cannot create database.

Explanation: The command failed in creating the Event Management configuration database from data contained in the SDR. One or more error message from the **haemcfg** command are displayed prior to this message.

User Response: Correct the problem indicated by the messages displayed by the **haemcfg** command. Refer to the Event Management Subsystem information in the *IBM Parallel System Support Programs for AIX: Administration Guide* and the manpage for this command for more information.

2521-514 Cannot verify registration of service name *service name***, protocol** *protocol***, port** *port number***.**

Explanation: The subsystem being installed by *command-name* was unable to verify the installation of the specified *service-name* protocol *port-number* in /**etc**/**services**, which is required for the subsystem to operate! If the machine is a NIS client, you may have to update the NIS master server's services map to reflect this change.

User Response: If the machine is a NIS client, copy the entry with the specified service-name, protocol, and port-number from the local /**etc**/**services** file into the /**etc**/**services** file on the NIS master server, and do a NIS make on the NIS master server.

2521-601 An error occurred in *function_name* **while getting partition information from** *command***:** *standard_error_message***.**

Explanation: While the Event Manager API either was preparing to run, attempted to run, or ran the command identified by *command* to obtain information about a partition, a call to *function_name* failed. Note that *standard_error_message* indicates the error returned by *function_name*.

User Response: Contact the IBM Support Center. .

2521-602 Unexpected end-of-file detected while getting partition information from *command*.

Explanation: The Event Manager API ran the command identified by *command* to obtain information about a partition. The Event Manager API did not receive all the expected information from *command*.

User Response: Contact the IBM Support Center.

2521-603 A data format error was detected while getting partition information from *command*.

Explanation: The Event Manager API ran the command identified by *command* to obtain information about a partition. The Event Manager API received information from *command* that was not in the expected format.

User Response: Contact the IBM Support Center.

2521-604 An unexpected ODM error occurred while determining the node number: *function_name*: *ODM_error_message*

Explanation: The Event Manager API attempted to determine the node number of the host machine, and the ODM function *function_name* returned an error. Note that *ODM_error_message* indicates the error returned by *function_name*.

User Response: Contact the IBM Support Center.

2521-605 Format of node number found in ODM is not valid; value was: *value*.

Explanation: The Event Manager API attempted to determine the node number of the host machine. It found an object in the **CuAt** object class with the name attribute set to **sp** and attribute attribute set to **node_number**. However, the format of the value attribute was not valid. The value of the value attribute was *value*.

User Response: Contact the IBM Support Center.

2521-606 Too many objects providing node number found in the ODM.

Explanation: The Event Manager API attempted to determine the node number of the host machine. It found more than one object in the **CuAt** object class with the name attribute set to **sp** and attribute attribute set to **node_number**. Therefore, the node number cannot be determined.

User Response: Contact the IBM Support Center.

2521-607 *function_name*(*partition_name*): *SDR_error_message*.

Explanation: The Event Manager API attempted to get information from the SDR. A session with partition *partition_name* could not be opened. Note that *function_name* returned *SDR_error_message*.

User Response: Contact the IBM Support Center.

2521-608 An error occurred in *function_name* while processing SDR class *SDR_class*: *SDR_error_message*.

Explanation: The Event Manager API attempted to get information from the SDR class *SDR_class*; the routine *function_name* returned the error message *SDR_error_message*.

User Response: Contact the IBM Support Center.

2521-609 Object not found in SDR class *SDR_class*.

Explanation: The Event Manager API attempted to find an object in the SDR class *SDR_class*, but failed.

User Response: Contact the IBM Support Center.

2521-610 Host name *host_name* found in SDR class *SDR_class* is too long to handle.

Explanation: The Event Manager API found *host_name* in the SDR class *SDR_class*. This host name is too long to handle.

User Response: Contact the IBM Support Center.

2521-611 Host address *host_address* found in SDR class *SDR_class* is too long to handle.

Explanation: The Event Manager API found *host_address* in the SDR class *SDR_class*. This host address is too long to handle.

User Response: Contact the IBM Support Center.

2521-612 Too many objects found in SDR class *SDR_class*.

Explanation: The Event Manager API attempted to find a specific object in the SDR class *SDR_class*, but more than one was found.

User Response: Contact the IBM Support Center.

2521-613 Port number *port_number* found in SDR class *SDR_class* is too long to handle.

Explanation: The Event Manager API found *port_number* in the SDR class *SDR_class*. This port number is too long to handle.

User Response: Contact the IBM Support Center.

2521-614 Attempt to allocate *number_of_bytes* bytes with a call to *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to allocate *number_of_bytes* bytes with the *function_name* function. The allocation was not successful. Note that *standard_error_message* indicates the error returned by *function name*.

User Response: Contact the IBM Support Center.

2521-615 Conversion of SP partition address *partition_address* to network form failed.

Explanation: The Event Manager API could not convert *partition_address* to network form. The address must not be valid.

User Response: Contact the IBM Support Center.

2521-616 Conversion of SP partition port *partition_port* to network form failed.

Explanation: The Event Manager API could not convert *partition_port* to network form. The address must not be valid.

User Response: Contact the IBM Support Center.

2521-617 An attempt to create a UNIX domain socket with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to create a UNIX domain socket with the *function_name* function. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-618 An attempt to create an Internet domain socket with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to create a Internet domain socket with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-619 An attempt to get file descriptor flags with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to get file descriptor flags with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-620 An attempt to set file descriptor flags with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to set file descriptor flags with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-621 An attempt to initialize a lock with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to initialize a lock with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-622 An attempt to lock a lock with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to lock a lock with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-623 An attempt to unlock a lock with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to unlock a lock with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-624 An attempt to initialize a mutex with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to initialize a mutex with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-625 An attempt to lock a mutex with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to lock a mutex with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-626 An attempt to unlock a mutex with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to unlock a mutex with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-627 A session file descriptor was apparently closed without calling ha_em_end_session().

Explanation: A file descriptor was created for a new Event Manager API session, but the file descriptor was already associated with an existing Event Manager API session. The program may have closed the session file descriptor without calling **ha_em_end_session()**.

User Response: Contact the IBM Support Center.

2521-628 Attempt to close the session file descriptor with a call to *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to close a file descriptor with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-629 The UNIX domain socket file name generated from *file_name* is too long.

Explanation: The name of the UNIX domain socket file used to communicate with the Event Manager daemon is too long to fit in an address structure.

User Response: Contact the IBM Support Center.

2521-630 Attempt to connect to an Event Manager daemon with a UNIX domain socket failed: *function_name*: *standard_error_message*

Explanation: The Event Manager API attempted to connect to an Event Manager daemon through a UNIX domain socket, but failed. The *function_name* function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-631 Attempt to connect to the Event Manager daemon with an Internet domain socket failed: *function_name*: *standard_error_message*.

Explanation: The Event Manager API attempted to connect to an Event Manager daemon through an Internet domain socket, but failed. The *function_name* function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-632 Attempt to get current time with *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API attempted to obtain the current time with the *function_name* function, but failed. The function returned *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-633 Session with file descriptor *file_descriptor* not found.

Explanation: The Event Manager API could not find a session with file descriptor *file_descriptor* An Event Manager API routine must have been called specifying a session file descriptor that was not valid.

User Response: Contact the IBM Support Center.

2521-635 Undefined command specified: *command*.

Explanation: An undefined command value was specified on a call to **ha_em_send_command()**. The value was *command*.

User Response: Contact the IBM Support Center.

2521-636 Undefined subcommand specified for event registration request: *subcommand*.

Explanation: An undefined subcommand value was specified on a call to **ha_em_send_command()**. The undefined value was *subcommand*.

User Response: Contact the IBM Support Center.

2521-637 Unexpected number of elements specified for event registration request: *number_of_elements*.

Explanation: An unexpected number of elements was specified in a call to **ha_em_send_command()**. The unexpected number of elements was *number_of_elements*.

User Response: Contact the IBM Support Center.

2521-638 Undefined subcommand specified for event unregistration request: *subcommand*.

Explanation: An undefined subcommand value was specified on a call to **ha_em_send_command()**. The undefined value was *subcommand*.

User Response: Contact the IBM Support Center.

2521-639 Unexpected number of elements specified for event unregistration request: *number_of_elements*

Explanation: An unexpected number of elements was specified in a call to **ha_em_send_command()**. The unexpected number of elements was *number_of_elements*.

User Response: Contact the IBM Support Center.

2521-640 Undefined subcommand specified for query request: *subcommand***.**

Explanation: An undefined subcommand value was specified on a call to **ha_em_send_command()**. The undefined value was *subcommand*.

User Response: Contact the IBM Support Center.

2521-641 Unexpected number of elements specified for query request: *number_of_elements***.**

Explanation: An unexpected number of elements was specified in a call to **ha_em_send_command()**. The unexpected number of elements was *number_of_elements*.

User Response: Contact the IBM Support Center.

2521-642 The session's connection to the Event Manager daemon has been previously lost.

Explanation: An Event Manager session's connection has been lost, and an improper attempt was made to perform some action within the session. Once a session's connection has been lost, the only proper action within the session is to restart or end the session.

User Response: Contact the IBM Support Center.

2521-643 This process does not own the specified session.

Explanation: A process made an improper attempt to perform some action within an Event Manager session that was not started by the process. Once a process inherits an Event Manager session from its parent, the only proper action on that session within the child process is to end the session.

User Response: Contact the IBM Support Center.

2521-644 An event registration array element could not be allocated.

Explanation: Internally, the Event Manager API keeps track of event registration requests. The Event Manager API could not find a free array element to use to keep track of a new event registration request.

User Response: Contact the IBM Support Center.

2521-645 A query control array element could not be allocated.

Explanation: Internally, the Event Manager API keeps track of query requests. The Event Manager API could not find a free array element to use to keep track of a new query request.

User Response: Contact the IBM Support Center.

2521-646 Attempt to send command message unsuccessful; *function_name* **failed:** *standard_error_message***.**

Explanation: The Event Manager API failed in an attempt to send a command message to an Event Manager daemon. The failing function was *function_name*. The error message returned by the function was *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-647 Attempt to send command message unsuccessful; *function_name* sent no bytes.

Explanation: The Event Manager API failed in an attempt to send a command message to an Event Manager daemon. The failing function was *function_name*. No bytes were sent.

User Response: Contact the IBM Support Center.

2521-648 Attempt to receive command response unsuccessful; *function_name* failed: *standard_error_message*.

Explanation: The Event Manager API failed in an attempt to receive a command response from an Event Manager daemon. The failing function was *function_name*. The error message returned by the function was *standard_error_message*.

User Response: Contact the IBM Support Center.

2521-649 Attempt to receive command response unsuccessful; *function_name* detected end-of-file; connection with Event Manager lost.

Explanation: The Event Manager API failed in an attempt to receive a command response from an Event Manager daemon. The failing function was *function_name*, which reported that it detected end-of-file. The Event Manager API connection with the Event Manager daemon has been lost.

User Response: Use the **ha_em_restart_session()** function to reconnect the session with the Event Manager daemon.

2521-650 No resource variable name was specified for an event that was to be registered.

Explanation: The Event Manager API was called to register one or more events. One of the events did not specify a resource variable name.

User Response: Contact the IBM Support Center.

2521-651 No re-arm predicate was specified for an event that was to be registered.

Explanation: The Event Manager API was called to register one or more events with re-arm predicates. One of the events did not specify a re-arm predicate.

User Response: Contact the IBM Support Center.

2521-652 Could not find *environment_variable* in the environment.

Explanation: The Event Manager was looking for a specific environment variable, *environment_variable*, but failed to find it. This message should only occur when using debugging versions of the Event Manager API.

User Response: If you are intentionally using a debugging version of the Event Manager API, set the specified environment variable to a value. Otherwise, contact the IBM Support Center.

2521-653 Format of value found in *environment_variable* environment variable not valid; value was: *value*.

Explanation: The Event Manager obtained the value, *value*, of an environment variable, *environment_variable*, and its format is not valid. This message should only occur when using debugging versions of the Event Manager API.

User Response: If you are intentionally using a debugging version of the Event Manager API, set the specified environment variable to a valid value. Otherwise, contact the IBM Support Center.

2521-654 Value found in *environment_variable* environment variable too long; value was: *value*.

Explanation: The Event Manager obtained the value, *value* of an environment variable, *environment_variable*, and its value is too long. This message should only occur when using debugging versions of the Event Manager API.

User Response: If you are intentionally using a debugging version of the Event Manager API,

set the specified environment variable to a valid value. Otherwise, contact the IBM Support Center.

2521-656 Unexpected event ID specified in event unregistration request: *event_ID*.

Explanation: The event ID *event_ID* was specified in an event unregistration request, but the event ID does not identify a registered event.

User Response: Determine if the event ID is still valid.

2521-657 Duplicate event ID specified in event unregistration request: *event_ID*.

Explanation: The event ID *event_ID* was specified more than once in an event unregistration request, or it was specified in a previous event unregistration request.

User Response: Determine if the event ID has already been specified for unregistration.

2521-658 Lost track of an event ID specified in an event unregistration request: *event_ID*.

Explanation: The event ID *event_ID* was specified in an event unregistration request, and the EMAPI has lost track of it.

User Response: Contact the IBM Support Center.

2521-659 Could not duplicate a file descriptor while getting partition information from *command*.

Explanation: The Event Manager API was preparing to run the command identified by *command* to obtain information about a partition. The Event Manager API could not associate the write end of a pipe with the standard output file descriptor.

User Response: Contact the IBM Support Center.

2521-660 After getting partition information from *command*, a call to *routine*() returned an unexpected value: *value*.

Explanation: The Event Manager API ran the command identified by *command* to obtain information about a partition. The Event Manager API called *routine* to wait for *command* to finish. The routine returned an unexpected value: *value*.

User Response: Contact the IBM Support Center.

2521-661 The command *command* returned unexpected status: *status*.

Explanation: The Event Manager API ran the command identified by *command* to obtain information about a partition. The termination status of the command, *status*, was unexpected.

User Response: Contact the IBM Support Center.

2521-662 The session has become unusable.

Explanation: An Event Manager session has become unusable. The session may have become unusable as a result of a previously reported error. If the thread safe version of the EMAPI is being used, the session may have become unusable because a thread using the session was canceled.

User Response: Contact the IBM Support Center.

2521-663 The session cannot be restarted, because the session's connection has not been lost.

Explanation: The **ha_em_restart_session()** routine was called for a session that has not lost its connection to the Event Manager daemon.

User Response: Contact the IBM Support Center.

2521-664 Attempt to send command message unsuccessful; *function_name* failed: Connection with Event Manager lost.

Explanation: The Event Manager API failed in an attempt to send a command message to an Event Manager daemon. The failing function was *function_name*. The send failed because the Event Manager API connection with the Event Manager daemon may have been lost.

User Response: The **ha_em_restart_session()** function can be used to reconnect the session with the Event Manager daemon.

2521-801 The RMAPI has already been initialized.

Explanation: The **ha_rr_init()** routine has already been called successfully.

User Response: The **ha_rr_init()** should only be called once to initialize the RMAPI.

2521-802 malloc() or realloc() failed for *number_of_bytes* bytes.

Explanation: The **malloc()** or **realloc()** system call failed when trying to allocate the number of bytes.

User Response: Contact the IBM Support Center.

2521-803 Error (*errno*) opening file: *name*.

Explanation: An error occurred when trying to open the specified file.

User Response: Contact the IBM Support Center.

2521-804 Error locking file: *name*.

Explanation: An error occurred when the RMAPI tried to lock the specified file. The lock file is used to ensure that only one copy per node of a resource monitor may be executing.

User Response: Make sure that only one copy per node of the resource monitor uses the RMAPI within a system partition.

2521-805 Checksum failed on EMCDB file: *name*.

Explanation: The version of the EMCDB file read by the RMAPI produced a checksum error.

User Response: Contact the IBM Support Center.

2521-806 Resource monitor *rname* not found in EMCDB file: *cname*.

Explanation: The resource monitor *rname* was not found in the EMCDB file for this system partition.

User Response: Check that the monitor requested has been defined in the SDR for the partition and that the EMCDB has been updated.

2521-807 Spmi function *function_name* failed with error *error_number*.*msg*.

Explanation: The specified **Spmi** routine failed.

User Response: Contact the IBM Support Center.

2521-808 The RMAPI has not been initialized.

Explanation: The **ha_rr_init()** routine has not been called to initialize the RMAPI.

User Response: The RMAPI must be initialized by calling the **ha_rr_init()** routine before calling any other RMAPI routines.

2521-809 Bad variable vector argument.

Explanation: A **ha_rr_variable** argument to an RMAPI routine was NULL or the number of variables specified to the routine was 0.

User Response: Check that both the vector and vector size arguments are being passed correctly.

2521-810 Resource class *class_name* not found in resource monitor *monitor_name*.

Explanation: The requested class name was not found in the EMCDB for the monitor.

User Response: Check that the class requested has been defined for the resource

monitor in the SDR and that the EMCDB has been updated.

2521-812 Bad variable value vector argument.

Explanation: A **ha_rr_val** argument to an RMAPI routine was NULL or the number of variables specified to the routine was 0.

User Response: Check that both the vector and vector size arguments are being passed correctly.

2521-813 Resource monitor server socket does not exist.

Explanation: A request was made to start a session before the resource monitor server socket has been created. This message applies to monitors that are defined to be a server type resource monitor (the **rmConnect_type** attribute of the EM_Resource_Monitor SDR Class object is set to "server").

User Response: Check that monitor is defined properly and that **ha_rr_makserv()** is being called prior to calling **ha_rr_start_session()**.

2521-814 Notification protocol argument does not match.

Explanation: The **ha_rr_notify_proto** argument has been passed differently between functions calls.

User Response: Check that the **ha_rr_notify_proto** arguments to the **ha_rr_makserv()** routine and the **ha_rr_start_session()** routine are the same.

2521-815 No connection pending to accept.

Explanation: A request was made to accept a connection on the resource monitor's server socket, but no connection request was found.

User Response: This message applies to resource monitor's that use SIGIO as the notification protocol. Because all socket file descriptors returned by the RMAPI should be checked when a SIGIO is received, this message does not represent an error condition.

2521-816 Additional Event Manager client session request rejected.

Explanation: An additional request was made to create a client session with the Event Manger daemon.

User Response: A **ha_rr_start_session()** should only be called once to create a session with the Event Manager daemon for resource monitors defined as type client (the **rmConnect_type** of the EM_Resource_Monitor SDR Class object is "client").

2521-817 System call *system_call* failed with errno *errno*.

Explanation: The system call *system_call* failed with the *errno* value.

User Response: Contact the IBM Support Center.

2521-818 No SIGIO signal handler found.

Explanation: No signal handler was defined for SIGIO.

User Response: If the resource monitor's notification protocol is *HA_RR_SIGIO*, a SIGIO handler must be defined before calling the function.

2521-819 A server resource monitor can have a maximum of *maximum_number_of_sessions* active sessions.

Explanation: The RMAPI can serve up to the maximum number of sessions.

User Response: Contact the IBM Support Center.

2521-820 No session found matching the session file descriptor: *file_descriptor*.

Explanation: No sessions were found matching the session file descriptor argument passed to the RMAPI routine.

User Response: Check that the descriptor argument passed to the function was the one returned by a previous call to **ha_rr_start_session()**.

2521-821 Connection closed by the resource manager.

Explanation: A session socket was found to be closed by the resource manager.

User Response: Review the actions to be taken for the type of resource monitor. If this is a server monitor that is started by the Event Manager daemon, and this was the last manager connection active, the monitor should exit. If the monitor will be continue processing, all registered variables should be deleted for this session by calling **ha_rr_del_var()**. The session should then be ended by calling **ha_rr_end_session()**.

2521-822 Resource monitor *name* not defined as a server in the EMCDB file.

Explanation: The **ha_rr_makserv()** routine failed because the specified resource monitor is not defined as a server.

User Response: Check that the resource monitor is defined as type server in the SDR and that the EMCDB has been updated to include this definition.

2521-823 Resource monitor server socket already exists.

Explanation: The **ha_rr_makserv()** routine failed because it has already been successfully called.

User Response: Check for multiple calls to the **ha_rr_makserv()** routine.

2521-824 Unknown notification protocol argument.

Explanation: The value of the **ha_rr_notify_proto** routine was unknown.

User Response: Check to see that either the *HA_RR_NOTIFY_SELECT* or the *HA_RR_NOTIFY_SIGIO* value is being passed as an argument to the RMAPI routine.

2521-825 PTX context(s) not found in the EMCDB for variable: *variable_name*.

Explanation: A PTX context was not found in the EMCDB file for the variable.

User Response: Contact the IBM Support Center.

2521-827 SDR function *function_name* failed with return code *return_code*.

Explanation: The specified SDR function failed.

User Response: Contact the IBM Support Center.

2521-828 SDR class *object_class* has a missing or unexpected data type for attribute *object_attirbute*.

Explanation: The SDR class attribute is missing or the data type for the attribute was not what was expected.

User Response: Contact the IBM Support Center.

2521-829 EMCDB version does not match the version in use by the Event Manager daemon.

Explanation: The timestamp or seqno in the EMCDB file does not match the EMCDB used by the Event Manager daemon.

User Response: Call **ha_rr_terminate()** then start the RMAPI session again to access the correct EMCDB.

2521-830 The write() system call failed sending a response message to (socket/errno): *socket_descriptor/errno_list*.

Explanation: The **write()** call failed to send a response message to one or more sockets.

User Response: Contact the IBM Support Center.

2521-831 The RMAPI received an unknown manager id from socket *socket_descriptor***.**

Explanation: The RMAPI received an unknown resource manager id message on the specified socket. *socket_descriptor*.

User Response: Contact the IBM Support Center. .

2521-832 RMAPI called with effective user id of *effective_user_id_of_caller***. Effective id of 0 (root) is required.**

Explanation: The resource monitor was not running with an effective id of 0 (root) when the RMAPI was called.

User Response: Check that the resource monitor runs with the required Run the program with the required effective user id effective user id to use the RMAPI.

2521-833 An ODM error occurred while determining the *ODM_function. ODM_error_string***:** *node number*

Explanation: While trying to determine the node number of the host machine, the ODM routine returned an error to the RMAPI.

User Response: Contact your customer support organization.

2521-834 Format of node number found in ODM is not valid; value was: *value***.**

Explanation: The RMAPI attempted to determine the node number of the host machine. It found an object in the CuAt object class with the name attribute set to **sp** and attribute attribute set to **node_number**. However, the format of the value attribute was not valid. The value of the value attribute was *value*.

User Response: Contact your customer support organization.

2521-835 Too may objects providing node number found in the ODM.

Explanation: The RMAPI API attempted to determine the node number of the host machine. It found more than one object in the CuAt object class with the name attribute set to **sp** and attribute attribute set to **node_number**. Therefore, the node number cannot be determined.

User Response: Contact your customer support organization.

2521-836 Unable to determine system partition name. SDR function SDRGetSyspar() failed.

Explanation: While trying to determine the local system partition name, the SDRGetSyspar() function failed, returning a NULL value.

User Response: Contact your customer support organization.

Chapter 57. 2522 - Resource Monitor Messages

2522-000 Could not start signal pipe for process poll signal.

Explanation: A Program Resource Monitor routine could not perform the initialization needed to handle a signal used to determine when the state of system processes should be polled.

User Response: Contact the IBM Support Center.

2522-001 Could not start signal pipe for process reap signal.

Explanation: A Program Resource Monitor routine could not perform the initialization needed to handle a signal used to determine when a monitored process has ended.

User Response: Contact the IBM Support Center.

2522-002 Could not start signal pipe for terminate signal.

Explanation: A Program Resource Monitor routine could not perform the initialization needed to handle a signal used to end the program.

User Response: Contact the IBM Support Center.

2522-003 Error from kernel extension routine *KE_routine***:** *error_message***.**

Explanation: A Program Resource Monitor routine called the Program Resource Monitor Kernel Extension routine *KE_routine*, which returned an error. The error message returned was *error_ message*.

User Response: Contact the IBM Support Center.

2522-004 RMAPI routine *RMAPI_routine* **returned error value** *error_number***:** *error_message***.**

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine*, which returned an error. The error number returned was *error_number*; the error message returned was *error_message*.

User Response: Contact the IBM Support Center.

2522-005 *flag* **argument** *flag_argument* **not two comma separated numbers.**

Explanation: A Program Resource Monitor routine found a problem with the specified argument, *flag_argument*, for the *flag* flag. The argument is expected to be two comma separated numbers.

User Response: Contact the IBM Support Center.

2522-006 *flag* **polling frequency argument** *specified_polling_frequency* **not positive.**

Explanation: A Program Resource Monitor routine found a problem with the *flag* flag's argument. The first number of the argument, the polling frequency, is expected to be a positive number; *specified_polling_frequency* was specified instead.

User Response: Contact the IBM Support Center.

2522-007 *flag* **re-polling frequency argument** *specified_re-polling_frequency* **not positive.**

Explanation: A Program Resource Monitor routine found a problem with the *flag* flag's argument. The second number of the argument, the re-polling frequency, is expected to be a positive number; *specified_re-polling_frequency* was specified instead.

User Response: Contact the IBM Support Center.

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2522-008 *flag* **re-polling frequency argument** *specified_re-polling_frequency* **greater than polling frequence argument** *specified_polling_frequency***.**

Explanation: A Program Resource Monitor routine found a problem with the *flag* flag's argument. The second number of the argument, the re-polling frequency, is expected to be less than or equal to the first number of the argument, the polling frequency, however, it was not. The specified numbers were *specified_polling_frequency* and *specified_re-polling_frequency*.

User Response: Contact the IBM Support Center.

2522-009 *flag* **flag requires an argument.**

Explanation: A Program Resource Monitor routine found a problem with the *flag* flag. The flag is expected to have an argument, however, none was specified.

User Response: Contact the IBM Support Center.

2522-010 *flag* **flag not recognized.**

Explanation: A Program Resource Monitor routine found a problem with the program arguments. The flag **flag** was specified, but is not valid.

User Response: Contact the IBM Support Center.

2522-011 *system_routine* **failed to change signal** *signal* **disposition:** *error_message***.**

Explanation: A Program Resource Monitor routine called *system_routine* to change the disposition of signal *signal*. However, *system_routine* returned an error described by *error_message*.

User Response: Contact the IBM Support Center.

2522-012 **system routine** *system_routine* **returned error:** *error_message*

Explanation: A Program Resource Monitor routine called the system routine *system_routine*. However, the system routine returned an error described by *error_message*.

User Response: Contact the IBM Support Center.

2522-013 **Could not add a new session to the list of active sessions.**

Explanation: A Program Resource Monitor routine could not get a new session structure added to the list of active sessions. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center. .

2522-014 *RMAPI_routine* **failed to returned a control message.**

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine* to get a control message. The RMAPI routine failed to return a control message.

User Response: Contact the IBM Support Center.

2522-015 **Lengths returned by** *RMAPI_routine* **do not agree.**

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine* to get a control message. The RMAPI routine returns the length of the control message returned, and the control message itself includes its length. These two lengths do not agree.

User Response: Contact the IBM Support Center.

2522-016 **A command (***command***) solely meant for Counter or Quantity resource variables has been received from the RMAPI.**

Explanation: A Program Resource Monitor routine received a command, *command*, from a Resource Monitor Manager solely meant for Counter or Quantity resource variables. Since

the Program Resource Monitor provides only State resource variables, this command was not expected.

User Response: Contact the IBM Support Center.

2522-017 An unrecognized command (*command*) was received from the RMAPI.

Explanation: A Program Resource Monitor routine received an unrecognized command, *command*, from a Resource Monitor Manager.

User Response: Contact the IBM Support Center.

2522-018 Number of variables (*number_of_variables*) in control message from RMAPI not positive.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager that did not contain a positive number of variables. The number of variables specified was *number_of_variables*.

User Response: Contact the IBM Support Center.

2522-019 Error encountered converting user name to user identifier for *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be instantiated. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*. The user name in the instance vector could not be converted to a user ID. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-020 Could not start signal pipe for debug signal.

Explanation: A Program Resource Monitor routine could not perform the initialization needed to handle a signal used for debugging.

User Response: Contact the IBM Support Center.

2522-021 Could not create new variable structure for *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be instantiated. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*. A variable structure could not be created to describe the new resource variable. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-022 Could not add new variable structure for *resource_variable* (*instance_vector*) to instantiated resource variable list.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be instantiated. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*. The variable structure describing the resource variable could not be added to the list of instantiated resource variables. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-023 *RMAPI_routine* could not register *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager which requested that a resource variable be instantiated. The resource variable was *resource_variable*. The

resource variable's instance vector was *instance_vector*. The RMAPI routine *RMAPI_routine* was called to register the instantiated resource variable, but the RMAPI routine failed.

User Response: Contact the IBM Support Center.

2522-024 RMAPI routine *RMAPI_routine* reported registration error *registration_error_number*.

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine* to register an instantiated resource variable. The RMAPI routine returned the registration error *registration_error_number*.

User Response: Contact the IBM Support Center.

2522-025 Requested to add resource variable (*instance_identifier*), which is not even instantiated.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). However, the resource variable is not instantiated. The instance identifier specified was *instance_identifier*.

User Response: Contact the IBM Support Center.

2522-026 Could not create new program structure for resource variable (*instance_identifier*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager which requested that a resource variable be added (monitored). However, a program structure could not be created to describe the program to be monitored on behalf of the resource variable. A previous error message may describe the cause of the problem. The instance identifier of the resource variable that was to be added was *instance_identifier*.

User Response: Contact the IBM Support Center.

2522-027 Could not add program (*program_name*;*user_ID*) to monitored programs list.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager which requested that a resource variable be added (monitored). However, the program structure describing the program to be monitored on behalf of the resource variable could not be added to the list of monitored programs. A previous error message may describe the cause of the problem. The program name specified was *program_name*, and the user identifier specified was *user_ID*.

User Response: Contact the IBM Support Center.

2522-028 Could not add variable (*instance_identifier*) to program (*program_name*,*user_ID*) variable list.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). However, the variable structure describing the resource variable could not be added to a list anchored by the program structure describing the program to be monitored on behalf of the resource variable. A previous error message may describe the cause of the problem. The instance identifier of the resource variable was *instance_identifier*. The program name was *program_name*, and the user ID was *user_ID*.

User Response: Contact the IBM Support Center.

2522-029 *RMAPI_routine* could not add *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*. The RMAPI routine *RMAPI_routine* was called to add the monitored resource variable, but the RMAPI routine failed.

User Response: Contact the IBM Support Center.

2522-030 RMAPI routine *RMAPI_routine* reported add error *add_error_number*.

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine* to add a monitored resource variable. The RMAPI routine returned the add error *add_error_number*.

User Response: Contact the IBM Support Center.

2522-031 RMAPI routine *RMAPI_routine* did not return non-NULL handle for *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). The RMAPI routine *RMAPI_routine* was called to add the monitored resource variable. However, the RMAPI returned a NULL handle. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*.

User Response: Contact the IBM Support Center.

2522-032 RMAPI routine *RMAPI_routine* changed handle for *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). The RMAPI routine *RMAPI_routine* was called to add the monitored resource variable. However, the RMAPI returned a handle that differed from the resource variable's previous handle. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*.

User Response: Contact the IBM Support Center.

2522-033 Could not create new deferred add structure.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). However, a deferred add structure could not be created to describe the add request. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-034 Could not add new deferred add structure to list of deferred add requests.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). However, the deferred add structure describing the add request could not be added to the list of deferred add requests. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-035 Could not add instance identifier to deferred add structure.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be added (monitored). However, the instance identifier of the resource variable to be monitored could not be added to a list anchored by a deferred add request structure. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-036 Requested to delete resource variable (*instance_identifier*), which is not even instantiated.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager which requested that a resource variable be deleted (not

monitored). However, the resource variable is not even instantiated. The instance identifier specified was *instance_identifier*.

User Response: Contact the IBM Support Center.

2522-037 Requested to delete resource variable (*instance_identifier*), which is not being monitored.

Explanation: There are two possibilities:

- A Program Resource Monitor received a control message from a Resource Monitor Manager, which requested that a resource variable be deleted (not monitored). However, the routine determined that the resource variable was not being monitored. The instance identifier specified was *instance_identifier*.
- A Program Resource Monitor was ending a RMAPI session because a disconnect had been detected. While ending the session, the routine was told to delete a resource variable that was not being monitored. The instance identifier specified was *instance_identifier*.

User Response: Contact the IBM Support Center.

2522-038 Unexpected return value from *RMAPI_routine*: *return_value*.

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine*, which returned an unexpected return value, *return_value*.

User Response: Contact the IBM Support Center.

2522-039 RMAPI routine *RMAPI_routine* did not return NULL handle, as expected.

Explanation: A Program Resource Monitor routine called the RMAPI routine *RMAPI_routine* to delete a resource variable. The RMAPI routine returned a value indicating that the resource variable should no longer be monitored. However, the RMAPI routine also returned a handle that was not NULL.

User Response: Contact the IBM Support Center.

2522-040 Could not remove variable (*instance_identifier*) from program's variable list.

Explanation: The variable structure describing a resource variable could not be removed from a list anchored by the program structure describing the program being monitored on behalf of the resource variable. A previous error message may describe the cause of the problem. The instance identifier of the resource variable was *instance_identifier*.

User Response: Contact the IBM Support Center.

2522-041 Could not remove program (*program_name*;*user_ID*) from monitored programs list.

Explanation: The program structure describing the program that was monitored on behalf of a resource variable could not be removed from the list of monitored programs. A previous error message may describe the cause of the problem. The program name was *program_name*, and the user identifier was *user_ID*.

User Response: Contact the IBM Support Center.

2522-042 Could not remove program (*program_name*;*user_ID*) from changed programs list.

Explanation: The program structure describing a program that is being monitored on behalf of a resource variable could not be removed from the list of changed programs. A previous error message may describe the cause of the problem. The program name was *program_name*, and the user identifier was *user_ID*

User Response: Contact the IBM Support Center.

2522-043 Could not delete unneeded program structure (*program_name*;*user_ID*).

Explanation: The program structure describing a program that was being monitored on behalf of a resource variable could not be destroyed. A previous error message may describe the cause of the problem. The program name was *program_name*, and the user identifier was *user_ID*.

User Response: Contact the IBM Support Center.

2522-044 Could not remove process (*process_ID*) from program (*program_name*;*user_ID*) process list.

Explanation: The process structure describing a process being monitored on behalf of a program could not be removed from a list anchored by the program structure describing the program. A previous error message may describe the cause of the problem. The process identifier was *process_ID*. The program name was *program_name*, and the user identifier was *user_ID*.

User Response: Contact the IBM Support Center.

2522-045 Could not remove process (*process_ID*) from monitored process list.

Explanation: The process structure describing a process being monitored on behalf of a program could not be removed from the list of monitored processes. A previous error message may describe the cause of the problem. The process identifier was *process_ID*

User Response: Contact the IBM Support Center.

2522-046 Could not delete unneeded process structure (*process_ID*).

Explanation: The process structure that had described a process being monitored on behalf of a program could not be destroyed. A previous error message may describe the cause of the problem. The process identifier was *process_ID*.

User Response: Contact the IBM Support Center.

2522-047 Found instance identifier (*instance_identifier*) with no resource variable.

Explanation: A Program Resource Monitor routine encountered what was believed to be a valid instance identifier, *instance_identifier*, which had no resource variable associated with it.

User Response: Contact the IBM Support Center.

2522-048 Could not remove session (*session_file_descriptor*) from active session list.

Explanation: The session structure describing a RMAPI session could not be removed from the list of active sessions. A previous error message may describe the cause of the problem. The session file descriptor was *session_file_descriptor*.

User Response: Contact the IBM Support Center.

2522-049 Kernel extension reported the death of a process (*process_ID*) that is not being monitored.

Explanation: A Program Resource Monitor Kernel Extension reported to a Program Resource Monitor routine the end of a process, whose PID was *process_ID*, which the Program Resource Monitor was not monitoring.

User Response: Contact the IBM Support Center.

2522-050 Monitored process (*process_ID*) does not have an associated monitored program.

Explanation: A Program Resource Monitor routine encountered a monitored process that did not have an associated monitored program. The PID of the process was *process_ID*.

User Response: Contact the IBM Support Center.

2522-051 Could not put program (*program_name*;*user_ID*) on changed program list.

Explanation: A Program Resource Monitor routine could not place a program structure on the changed program list. The program name was *program_name*, and the user identifier was *user_ID*. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-052 Could not access system process table entry.

Explanation: A Program Resource Monitor routine could not access the system's process table. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-053 Could not create new process structure for *process_ID*.

Explanation: A Program Resource Monitor routine could not create a process structure to describe the process with PID *process_ID* A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-054 Could not add process (*process_ID*) to program (*program_name*;*user_ID*) process list.

Explanation: A Program Resource Monitor routine could not add the process structure describing the process with PID *process_ID* to a list anchored by the program structure describing the program for which the process is to be monitored. A previous error message may describe the cause of the problem. The program name was *program_name*, and the user ID was *user_ID*.

User Response: Contact the IBM Support Center.

2522-055 Process (*process_ID*) was to be reused, but it is in an unexpected state.

Explanation: A Program Resource Monitor routine discovered a process with PID *process_ID* already associated with a program, but with an unexpected state.

User Response: Contact the IBM Support Center.

2522-056 Could not add process (*process_ID*) to monitored process list.

Explanation: A Program Resource Monitor routine could not add the process structure describing the process with PID *process_ID* to the list of monitored processes. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-057 Could not remove new deferred add structure from list of deferred add requests.

Explanation: A deferred add structure could not be removed from the list of deferred add requests. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-058 Could not delete unneeded deferred add structure.

Explanation: A deferred add structure could not be destroyed. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-059 Cannot do deferred add of resource variable (*instance_identifier*); it is not instantiated.

Explanation: A Program Resource Monitor routine encountered what was believed to be a valid instance identifier, *instance_identifier*, that had no resource variable associated with it. The resource variable was supposed to be added (monitored).

User Response: Contact the IBM Support Center.

2522-060 Cannot do deferred add of resource variable (*instance_identifier*); no associated program found.

Explanation: A Program Resource Monitor routine encountered a resource variable, with instance identifier *instance_identifier*, for which deferred add processing was needed, however, it had no program associated with it.

User Response: Contact the IBM Support Center.

2522-061 Could not initialize process lists for program (*program_name*;*user_ID*).

Explanation: A Program Resource Monitor routine could not initialize some process lists. The program name was *program_name*, and the user identifier was *user_ID*. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-062 For report phase *report_phase*, unexpected process state (*process_state*) for process (*process_ID*) associated with program (*program_name*;*user_ID*).

Explanation: A Program Resource Monitor routine was running in report phase *report_phase*, and found a process with PID *process_ID* that had an unexpected state: *process_state*. The process was associated with a program with the name *program_name* and the user identifier *user_ID*.

User Response: Contact the IBM Support Center.

2522-063 Could not create new structured byte string for program (*program_name*;*user_ID*).

Explanation: A Program Resource Monitor routine could not create a new structured byte string for a program. The program name was *program_name*, and the user identifier was *user_ID*. A previous error message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-064 User name in *resource_variable* (*instance_vector*) is unknown.

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be instantiated. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*. The user name in the instance vector could not be converted to a user ID, because the user name is unknown.

User Response: Contact the IBM Support Center.

2522-065 Program Resource Monitor cannot monitor itself: *resource_variable* (*instance_vector*).

Explanation: A Program Resource Monitor routine received a control message from a Resource Monitor Manager, which requested that a resource variable be instantiated. The resource variable was *resource_variable*. The resource variable's instance vector was *instance_vector*. The instance vector describes the Program Resource Monitor, which cannot monitor itself.

User Response: Contact the IBM Support Center.

2522-066 Could not remove variable (*instance_identifier*) from instantiated resource variable list.

Explanation: A Program Resource Monitor routine could not remove the resource variable with instance identifier *instance_identifier* . from the instantiated resource variable list. A previous message may describe the cause of the problem.

User Response: Contact the IBM Support Center.

2522-067 Could not delete unneeded variable structure (*instance_identifier*).

Explanation: A Program Resource Monitor routine could not delete the variable structure representing the resource variable with instance identifier *instance_identifier*.

User Response: Contact the IBM Support Center.

2522-068 Cannot delete *object_type* object because *object_field_name* field is not free.

Explanation: A Program Resource Monitor routine could not delete an object of type *object_type* because the memory associated with the object's *object_field_name* field has not been freed.

User Response: Contact the IBM Support Center.

2522-069 Number of elements used is greater than number allocated.

Explanation: A Program Resource Monitor routine found an array where the number of elements used is greater than the number of elements allocated.

User Response: Contact the IBM Support Center.

2522-070 Null resource variable name received.

Explanation: A Program Resource Monitor routine received an empty resource variable name.

User Response: Contact the IBM Support Center.

2522-071 Unknown resource variable name received: *resource_variable_name*.

Explanation: A Program Resource Monitor routine received an unknown resource variable name, *resource_variable_name*.

User Response: Contact the IBM Support Center.

2522-072 Null instance vector received.

Explanation: A Program Resource Monitor routine received an empty instance vector.

User Response: Contact the IBM Support Center.

2522-073 Instance vector *instace_vector* contains one of the following illegal characters *illegal_characters*.

Explanation: A Program Resource Monitor routine received an instance vector, *instance_vector*, which includes one or more of the following illegal characters: *illegal_characters*.

User Response: Contact the IBM Support Center.

2522-074 Instance vector *instance_vector* does not contain *number* name/value pairs.

Explanation: A Program Resource Monitor routine received an instance vector, *instance_vector*, which does not include *number* name/value pairs.

User Response: Contact the IBM Support Center.

2522-075 Instance vector *instance_vector* contains more than *number* name/value pairs.

Explanation: A Program Resource Monitor routine received an instance vector, *instance_vector*, which includes more than *number* name/value pairs.

User Response: Contact the IBM Support Center.

2522-076 Instance vector *instance_vector* does not contain the *name* name/value pair.

Explanation: A Program Resource Monitor routine received an instance vector, *instance_vector*, which does not include a name/value pair for *name*

User Response: Contact the IBM Support Center.

2522-077 Instance vector *instance_vector*: value for *name* exceeds *size_limit*.

Explanation: A Program Resource Monitor routine received an instance vector, *instance_vector*, which includes a name/value pair for *name*. The value for *name* exceeds *size_limit* characters.

User Response: Contact the IBM Support Center.

2522-078 Name/value pair *name/value* is missing name.

Explanation: A Program Resource Monitor routine received an instance vector name/value pair, *name/value pair*, without a name.

User Response: Contact the IBM Support Center.

2522-079 Name/value pair *name/value_pair* is missing value.

Explanation: The Program Resource Monitor routine **PRM_routine** received an instance vector name/value pair, *name/value_pair*, without a value.

User Response: Contact the IBM Support Center.

2522-080 Name/value pair *name/value_pair* has extra *character*.

Explanation: A Program Resource Monitor routine received an instance vector name/value pair, *name/value pair*, with an extra *character* character.

User Response: Contact the IBM Support Center.

2522-081 Cannot support new session. Can only support *limit* sessions.

Explanation: A Program Resource Monitor routine detected a new RMAPI session established with the resource monitor, and the number of sessions established exceeds the maximum number of RMAPI sessions supported by the resource monitor, *limit*.

User Response: Contact the IBM Support Center.

2522-082 Cannot remove unknown session *session_descriptor*.

Explanation: A Program Resource Monitor routine was requested to remove an unknown RMAPI session, *session_descriptor*.

User Response: Contact the IBM Support Center.

2522-083 The process table has not been obtained.

Explanation: A Program Resource Monitor routine was called to provide a process table entry, but it was called at an improper time.

User Response: Contact the IBM Support Center.

2522-084 Specification as to where to start scanning the process table is not valid.

Explanation: A Program Resource Monitor routine was called to provide a process table entry, but the specification as to where to start scanning the process table was not valid.

User Response: Contact the IBM Support Center.

2522-085 Instance identifier (*instance_identifier*) is out of range.

Explanation: A Program Resource Monitor routine received an instance identifier, *instance_identifier*, which is outside the range of currently valid instance identifiers.

User Response: Contact the IBM Support Center.

2522-086 Instance identifier (*instance_identifier*) not in use.

Explanation: A Program Resource Monitor routine received an instance identifier, *instance_identifier*, which is not currently in use.

User Response: Contact the IBM Support Center.

2522-087 Instance identifier mismatch (*instance_ID_1*/*instance_ID_2*).

Explanation: A Program Resource Monitor routine found a resource variable structure that should have represented an instantiated resource variable whose instance identifier was *instance_ID_1*. However, the resource variable structure indicated that the resource variable's instance identifier was *instance_ID_2*.

User Response: Contact the IBM Support Center.

2522-088 No instance identifiers in use.

Explanation: A Program Resource Monitor routine unexpectedly found that no instance identifiers are currently in use.

User Response: Contact the IBM Support Center.

2522-089 The object is already linked to some list.

Explanation: A Program Resource Monitor routine was requested to link an object into a list using a certain field of the object. However, the object appears to be already linked into a list with the specified field.

User Response: Contact the IBM Support Center.

2522-090 Duplicate object found on the list.

Explanation: A Program Resource Monitor routine was requested to link an object into a list. However, an object was found to already be on the list with the same key as the object to be placed into the list.

User Response: Contact the IBM Support Center.

2522-091 The object is not on the list.

Explanation: A Program Resource Monitor routine was requested to remove an object from a list. However, the field specified through which the object should be linked into the list indicates that the object is not linked into the list.

User Response: Contact the IBM Support Center.

2522-092 Could not trim structured byte string to *number_of_bytes* bytes.

Explanation: A Program Resource Monitor routine could not trim the length of a structured byte string to *number_of_bytes* bytes.

User Response: Contact the IBM Support Center.

2522-300 No monitor modules available.

Explanation: The **harmld** deamon is about to exit because it does not have any monitor modules loaded. If the options/lpps which **harmld** can monitor are not installed, this is not an error.

User Response: Review prior messages. If any of the options/lpps that **harmld** monitors are installed, contact the IBM Support Center.

2522-301 Rmapi *RMAPI_routine* failed: Fn=*RMAPI_filename*,SID=*RMAPI_file_version*, *RMAPI_line_number*,Err=*RMAPI_err_number* -*RMAPI_err_string*.,Msg=*RMAPI_err_msg*.

Explanation: The **hamrld** monitor received a severe error from the RMAPI routine.

User Response: Review the actions for the RMAPI error.

2522-302 Rmapi *RMAPI_routine* warning: Var=*variable_name* Ivec=*variable_ivector* Err=*RMAPI_err_number*-*RMAPI_err_string*.

Explanation: An error was detected while trying to add/del or register the specified variable with the RMAPI. This is not a "hard" error and the **harmld** daemon will not exit on this condition.

User Response: If system degradation or unexpected results occur, save the message data and contact the IBM Support Center.

2522-303 System call *system_call*(*useful_parameters*) failed with errno *errno*.

Explanation: The specified system call *system_call* failed, which may result in the daemon ending.

User Response: Contact the IBM Support Center.

2522-304 Bad return code from module during *action_(INIT/UPDAT/CLEANUP)*: Module=*module_name* Class=*variable_class* Error=*error_number*.

Explanation: The **harmld** received a bad return code from a load module when called to initialize, update values, or end.

User Response: Contact the IBM Support Center.

2522-305 Maximum number of manager sessions exceeded. Closing session number *session_number*, socket descriptor *socket_file_descriptor*.

Explanation: The number of manager sessions exceeded the maximum allowed by the RMAPI. The last connection accepted will be closed.

User Response: Contact the IBM Support Center.

2522-306 Internal program error: *error_text*.

Explanation: A **harmld** internal program error occurred.

User Response: Contact the IBM Support Center.

2522-307 Exiting with internal return code *errno*.

Explanation: The **harmld** daemon is about to exit on a detected error.

User Response: Review prior messages to determine the error or contact the IBM Support Center.

2522-308 Module *module_name* is not a regular file.

Explanation: The monitor module was not found to be a regular file.

User Response: Contact the IBM Support Center.

2522-309 Unknown control message (*control_msg_ID*) received -n- from socket descriptor *socket_fd*.

Explanation: The **harmld** received an unknown control message type from the specified socket *socket_fd*.

User Response: Contact the IBM Support Center.

2522-310 Control message requested unknown instance: Socket=*descriptor* Cmd=*control_cmd_number* Modules=*number_of_modules* Inst id=*instance_module*(*instance_variable_id*)

Explanation: The **harmld** daemon received a control message that requested an unknown variable instance.

User Response: Contact the IBM Support Center. The **harmld** daemon will ignore the control command and continue processing.

2522-311 Control message requested unreged or unadded variable: Socket=*descriptor* Cmd=*control_cmd_number* Class=*variable_class* Var=*variable_name*(*instance_vector*).

Explanation: The **harmld** daemon received either an HA_RR_CMD_ADDV request to add an unregistered variable, or a HA_RR_CMD_DELV request to delete a variable that has not been previously added by **ha_rr_add_var()**.

User Response: Contact the IBM Support Center. The **harmld** daemon will ignore the control command and continue processing.

2522-312 Unable to determine syspar name. SDRGetSyspar() failed.

Explanation: While trying to determine the local system partition name, the SDR SDRGetSyspar() function failed, returning a NULL value.

User Response: Contact your customer support organization.

2522-313 ODM error: *ODM_function, ODM_error_string*"

Explanation: While trying to determine the node number of the host machine, the ODM routine returned an error to harmld.

User Response: Contact your customer support organization.

2522-314 Node number format in ODM is not valid; value was: *value.*"

Explanation: harmld attempted to determine the node number of the host machine. It found an object in the CuAt object class with the name attribute set to **sp** and attribute attribute set to **node_number** However, the format of the value attribute was not valid. The value of the value attribute was *value*.

User Response: Contact your customer support organization.

2522-315 Too may objects providing node number found in the ODM.

Explanation: harmld attempted to determine the node number of the host machine. It found more than one object in the CuAt object class with the name attribute set to **sp** and attribute attribute set to **node_number**. Therefore, the node number cannot be determined.

User Response: Contact your customer support organization.

2522-316 SP node number not found in ODM.

Explanation: harmld attempted to determine the node number of the host machine. No objects were found in the CuAt object class with the name attribute set to 'sp' and attribute attribute set to 'node_number'.

User Response: Contact your customer support organization.

2522-900 HM API error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to start a session with the Hardware Monitor.

Explanation: The Hardmon Event Manager was not able to connect to the Hardware Monitor through the named *api interface*.

User Response: Ensure that the Hardware Monitor is active. If the problem persists, save the message data and contact the IBM Support Center.

2522-901 HM API error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to obtain system partition information.

Explanation: The Hardmon Event Manager was not able to obtain System Partition configuration information from the System Data Repository (SDR).

User Response: Verify that the SDR has been properly configured and that the Hardware Monitor configuration information is present in the SDR. Refer to the man page for the **hardmon** command for a description of this configuration information.

2522-902 HM API error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to obtain query information.

Explanation: The named *api interface* was not able to obtain state information from the Hardware Monitor daemon.

User Response: If the problem persists, save the message data and contact the IBM Support Center.

2522-903 HM API error
Module=*api_interface*
Errno=*error_code*
Msg=Unable to monitor state information.

Explanation: The named *api interface* was not able to obtain state information from the Hardware Monitor daemon.

User Response: If the problem persists, save the message data and contact the IBM Support Center.

2522-904 HM API error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to obtain state information.

Explanation: The named *api interface* was not able to obtain state information from the Hardware Monitor daemon.

User Response: If the problem persists, save the message data and contact the IBM Support Center.

2522-905 HM API error.
Module=*api_interface*
Variable Index=*variable_index*
Msg=Internal error, unknown variable id detected.

Explanation: The Hardmon Resource Monitor has detected an unknown variable id in response from the Hardware Monitor daemon *api interface*. This message indicates an internal program problem.

User Response: Save the message data and contact the IBM Support Center.

2522-906 HM API error.
Module=*api_interface*
Data Type=*data_type_code*
Msg=Internal error, unknown variable data type detected.

Explanation: The Hardmon Resource Monitor has detected an unknown data type in the response from the Hardware Monitor *api interface*. This message indicates an internal program problem.

User Response: Save the message data and contact the IBM Support Center.

2522-907 HM API error.
Module=*api_interface*
Frame=*frame_id*
Slot=*slot_id*
Msg=Internal error, unexpected slot occupation detected.

Explanation: This is a reserved message that is currently not used.

User Response: None.

2522-908 SDR error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to start a session with the SDR.

Explanation: The Hardmon Event Manager was not able to connect to the SDR.

User Response: Ensure that the SDR is active in the currently defined partition. If the problem persists, save the message data and contact the IBM Support Center.

2522-909 SDR error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to obtain objects from the SDR *sdr_class* **class.**

Explanation: The Hardmon Event Manager could not obtain objects from the SDR class named by sdr class.

User Response: Ensure that the specified class is properly configured. If the problem persists, save the message data and contact the IBM Support Center.

2522-910 SDR error.
Module=*api_interface*
Errno=*error_code*
Msg=Unable to obtain *sdr_object* **from the SDR** *sdr_class* **class.**

Explanation: The Hardmon Event Manager could not find the specified attribute named by

sdr_object in the SDR class named by *sdr_class*.

User Response: Ensure that the specified class is properly configured. If the problem persists, save the message data and contact the IBM Support Center.

2522-911 SDR error.
Module=*api_interface*
Msg=Undetermined data type for *sdr_object* **from the SDR** *sdr_class* **class.**

Explanation: The Hardmon Event Manager found an unexpected data type for the specified attribute named by *sdr_object* in the SDR class named by *sdr_class*.

User Response: Ensure that the specified class is properly configured. If the problem persists, save message data and contact the IBM Support Center.

2522-912 SDR error.
Module=*api_interface*
Msg=There are no frames defined in the SDR *sdr_class* **class.**

Explanation: While the Hardmon Event Manager has successfully obtained configuration information from the SDR, the information in the class named by *sdr_class* is not complete.

User Response: Ensure that the specified class is properly configured. If the problem persists, save the message data and contact the IBM Support Center.

2522-913 RM API error.
Errno=*rm_api_error_code*
Msg=*rm_api_error_message*

Explanation: The Event Manager, through the Resource Monitor API, has returned an unexpected error condition. The RM api error code *errno* and error message *msg* returned by the RM API are included in this message.

User Response: Correct the problem indicated by the Resource Monitor API error code *errno* and message *msg*. If the problem persists, save the message data and contact the IBM Support Center.

2522-914 RM API error.
Module=*control_message_code*
Msg=Internal error, unknown control message (*control_message_code***) received.**

Explanation: The Hardmon Resource Monitor has received an unknown control message named by *control_message_code* in response from the Resource Monitor API. This message indicates an internal program problem, however this error is non-terminating. That is, the Hardmon Resource Monitor will not exit on this condition.

User Response: If system degradation or unexpected results occur, save the message data and contact the IBM Support Center.

2522-915 RM API error.
Module=*api_interface*
Msg=Internal error, bad instance id (*instance_id_code***) received.**

Explanation: The Hardmon Resource Monitor has received an unknown control id named by *instance_id_code* in response from the Resource Monitor API. This message indicates an internal program problem, however, this error is non-terminating. That is, the Hardmon Resource Monitor will not exit on this condition.

User Response: If system degradation or unexpected results occur, save the message data and contact the IBM Support Center.

2522-916 RM API error.
Errno=*error_code*
Variable=*resource_name*
Vector=*instance_vector*
Msg=*api_request* **not complete.**

Explanation: The Hardmon Resource Monitor received an **add**, **delete**, or **register** error in response from the Resource Monitor API as indicated by the named *api_request* for the named *resource_name* and *instance_vector*. This message indicates an internal program problem, however, this error is non-terminating. That is, the Hardmon Resource Monitor will not exit on this condition.

User Response: If system degradation or unexpected results occur, save the message data and contact the IBM Support Center.

2522-917 Could not allocate memory. Request=*requesting_data_structure* **Current=***bytes_currently_allocated* **bytes Attempted=***bytes_to_be_allocated* **bytes**

Explanation: Memory could not be allocated for the named data structure.

User Response: Save the message data and contact the IBM Support Center.

2522-918 Internal error, select mask too small.

Explanation: This message indicates an internal program problem.

User Response: Save the error message and contact the IBM Support Center.

2522-919 System call error. Module=*system_call* **Errno=***system_error_code* **Msg=***system_error_message***.**

Explanation: This message indicates a problem with the kernel system interface named by *system_call*. The *system_error_code* and *system_error_message* are included.

User Response: Correct the problem indicated by the system error message. If the problem persists, save the message data and contact the IBM Support Center.

2522-920 Could not obtain kerberos ticket-granting-ticket. Logfile=*log_file_name***.**

Explanation: The Hardmon Event Manager was not able to connect to the Hardware Monitor.

User Response: Check the environment variables and authorization mechanisms in the *IBM Parallel System Support Programs for AIX: Administration Guide*. Check named *Logfile* for trace information. If the problem persists contact the IBM Support Center.

Chapter 58. 2523 - Topology Messages

2523-001 My address missing from the adapter information.

Explanation: My address, which is found by examining the output of **netstat -i**, could not be found in the generated machines list file.

User Response: Verify that **sdrd** is running and that the information for this adapter is correctly entered in the SDR.

2523-002 GROUP_PROCLAIM message from outside the configuration, ID=*adapter_id***, ignored.**

Explanation: Daemon received a Group Proclaim message from a node outside the current configuration. One or more daemons may have outdated configurations.

User Response: Perform a daemon refresh with the **hatsctrl -r** command on the control workstation and every node in the affected partition.

2523-003 Got a heartbeat from someone that is not my neighbor, ID=*adapter_id* **GID=***group_id***.**

Explanation: A node did not respond to committing of new groups.

User Response: If the problem persists, the daemon on the offending node should be reset.

2523-005 Failed to send heartbeat to *adapter_id***.**

Explanation: Failure to send a heartbeat message, possibly due to network problems.

User Response: Fix any network problems.

2523-006 Unable to fork child process.

Explanation: Attempt to fork failed, possibly due to too many running processes.

User Response: Determine and correct the resource problem.

2523-007 *argument_value***: Not a valid** *argument_flag* **flag; positive integer expected.**

Explanation: The daemon was invoked with a bad value for the indicated argument.

User Response: Correct the argument value to a positive integer value.

2523-008 *argument_value***: Not a valid** *argument_flag* **flag; non-negative integer <***upper_bound* **expected.**

Explanation: The daemon was invoked with a bad value for the indicated argument.

User Response: Correct the argument value to a non-negative less than the upper bound.

2523-009 *argument_value***: Not a valid** *argument_flag* **flag.**

Explanation: Daemon was invoked with an incorrect flag.

User Response: Specify a flag with the correct value.

2523-010 *argument_value***: Not a valid** *argument_flag* **flag; integer expected.**

Explanation: Daemon was invoked with an incorrect flag.

User Response: Specify a flag with an integer value.

2523-011 Unrecognized parameter *parameter*

Explanation: Daemon was invoked with an unrecognized parameter.

User Response: Specify the parameter correctly.

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2523-012 Unable to obtain socket port number from /etc/services.

Explanation: **hats.<partition name>** entry missing in **/etc/services**

User Response: Run **syspar_ctrl -d hats;syspar_ctrl -a hats** in the affected partition.

2523-013 *adapter_offset***: Not a valid HB_SOCKET port number: expecting** *lower_bound* **-** *upper_bound***.**

Explanation: The specified port number is not in the range *lower_bound* - *upper_bound*.

User Response: Specify HB_SOCKET port number in the indicated range.

2523-014 My node number is not defined.

Explanation: This node was not specified in the configuration.

User Response: Correct the configuration error.

2523-015 Don't know how to broadcast *message_type* **messages.**

Explanation: The daemon is not capable of broadcasting a message of the indicated type.

User Response: Contact the IBM Support Center.

2523-016 Unable to send message, remote socket is not ready for writing.

Explanation: The attempt to write to the Remote Socket failed.

User Response: Verify the network is working correctly.

2523-017 Received a *message_type* **message for an unknown address** *address***.**

Explanation: Received a message that is not destined for any node in the configuration.

User Response: Contact the IBM Support Center.

2523-018 Could not obtain HB_SHARED_MEM_KEY *shared_memory_id***.**

Explanation: Unable to obtain a shared memory key.

User Response: Use **ipcrm** to clean up shared memory.

2523-019 Could not obtain HB_SHARED_SEM_KEY.

Explanation: Unable to obtain a shared memory key.

User Response: Use **ipcrm** to clean up shared memory.

2523-020 Could not create shared memory segment *shared_memory_segment_number***.**

Explanation: Unable to create a shared memory segment.

User Response: Use **ipcrm** to clean up shared memory.

2523-021 Could not attach shared memory segment *shared_memory_segment_number***.**

Explanation: Unable to attach to a shared memory segment.

User Response: Use **ipcrm** to clean up shared memory.

2523-022 Could not create semaphore.

Explanation: Unable to create a semaphore.

User Response: Use **ipcrm** to clean up semaphores.

2523-023 Could not initialize semaphore.

Explanation: Unable to initialize a semaphore.

User Response: Use **ipcrm** to clean up semaphores.

2523-024 *key_number*: **Not a valid HB_SHARED_MEM_KEY number: expecting** *lower_bound* **-** *upper_bound*.

Explanation: Shared memory key number is not in the range lower-bound — upper-bound.

User Response: Specify the shared memory key number correctly.

2523-025 *key_number*: **Not a valid HB_SHARED_SEM_KEY number: expecting** *lower_bound* **-** *upper_bound*.

Explanation: Shared memory key number is not in the range lower-bound — upper-bound.

User Response: Specify the shared memory key number correctly.

2523-026 Could not open Local Socket.

Explanation: An attempt to open the connection socket failed, possibly because of permissions.

User Response: Remove the local socket file.

2523-027 *option*: **setsockopt on Local Socket failed.**

Explanation: Unable to set the socket option on the local socket.

User Response: Try to set the socket option on the local socket again.

2523-028 Could not bind Local Socket = *adapter_offset* **to** *file_descriptor*.

Explanation: Unable to bind the local socket with the indicated file descriptor.

User Response: Remove the socket file and try again.

2523-029 Unable to send message on Remote Socket, message too long.

Explanation: The **sendto** command returned an errno of EMSGSIZE due to the size of the message.

User Response: None.

2523-030 Client message from pid=(*PID***) on an unregistered socket, message ignored.**

Explanation: Received a client message from the indicated pid that is no longer a registered client, or possibly registered with a different pid.

User Response: This process must register to have access.

2523-031 Incomplete client message sent, *bytes_sent* **out of** *msg_size* **bytes sent.**

Explanation: Unable to send the entire message.

User Response: None.

2523-033 Unable to send Client message, the message pointer is not valid.

Explanation: The message pointer is not valid.

User Response: Start the hats daemon again in this partition.

2523-035 Listening Socket Error ID = *error_id*, **not recognized.**

Explanation: An error was generated that was not recognized.

User Response: None.

2523-036 Error Accepting Client Connection, errno=*errno*.

Explanation: The accept of a connection request failed.

User Response: None.

2523-037 Error sending data to pid=*pid*, **rc =** *return_code*, **errno =** *errno*.

Explanation: Error sending data to indicated process id.

User Response: None.

2523-038 Error receiving data from pid=*pid*, rc = *return_code*, errno = *errno*.

Explanation: Error receiving data from indicated process id.

User Response: None.

2523-039 Could not open Remote Socket.

Explanation: Unable to open remote socket, may indicate lack of resources.

User Response: Identify and correct the problem and try again.

2523-040 *option*: setsockopt on Remote Socket failed.

Explanation: Unable to set the socket option on the remote socket.

User Response: Try again.

2523-041 Could not bind Remote Socket = *file_descriptor*.

Explanation: Unable to bind the remote socket with the indicated file descriptor.

User Response: Check to see if port number is already in use.

2523-042 Getsockname on Remote Socket failed.

Explanation: An internal daemon error may be the cause of the failure.

User Response: None.

2523-043 Unmatching From ID.

Explanation: The address of the sender and the from address in the message do not match.

User Response: None.

2523-044 Received *message_size* bytes from *sender_address* with unmatching from ID.

Explanation: The address of the sender and the from address in the message do not match.

User Response: Verify the source of the message.

2523-045 Bad Socket Descriptor.

Explanation: The socket descriptor has been corrupted.

User Response: Start the topology services daemon again.

2523-046 Internal Data Error.

Explanation: An internal data error was detected.

User Response: None.

2523-047 Caught Signal.

Explanation: The **select** call ended due to a signal.

User Response: None.

2523-048 Select data value not valid.

Explanation: A parameter to a **select** call was not valid.

User Response: Start the daemon again.

2523-049 Select data pointer not valid.

Explanation: The data pointer to the **select** call is not valid.

User Response: Start the daemon again.

2523-050 Unexpected error from select.

Explanation: Unexpected **errno** set by the **select** call.

User Response: Start the daemon again.

2523-051 Could not open machine file *file_name*.

Explanation: Unable to open the machines list file indicated.

User Response: Check to see if the file was created and has appropriate permissions.

2523-052 Could not open a pipe to netstat.

Explanation: Unable to start the **netstat** command or create the pipe to it to gather output from the **netstat** command. Uses **/usr/bin/netstat**.

User Response: Verify the existence of the **netstat** command.

2523-055 Node number duplicated: *string***.**

Explanation: The string is the line in the machines list that duplicates the node number.

User Response: Fix the inconsistency in the configuration.

2523-056 Gethostbyname *host_name* **Failed, errno =** *errno***.**

Explanation: Unable to convert the host name to an IP address.

User Response: Verify the host name is known to the network/name server.

2523-057 IP address duplicated: node *node_number* **address** *IP_address***.**

Explanation: The indicated IP address was already encountered in the configuration.

User Response: Fix the inconsistency in the configuration.

2523-058 Ignoring Adapter *adapter_name* **at offset** *adapter_offset* **on node** *node_number***.**

Explanation: Unable to convert the adapter name *adapter_name* of the adapter at the adapter offset *adapter_offset* on node indicated to an IP address.

User Response: Verify that adapter is known to the network/name server.

2523-059 IP address changed for adapter at offset *adapter_offset* **on node** *node_number***.**

Explanation: The IP address for the adapter on the indicated node changed at adapter offset *adapter_offset*.

User Response: If this is an intended change, start all daemons again. Otherwise, correct the inconsistency.

2523-060 Configuration error - no nodes defined.

Explanation: No nodes or adapters defined in the machines list file.

User Response: Check to see if the configuration has nodes defined.

2523-061 Refresh: deleted myself!

Explanation: An interface on this node has been omitted from the configuration.

User Response: Verify if this is intended.

2523-062 *Operation***: ioctl failed.**

Explanation: The **ioctl** operation failed.

User Response: Determine the reason for the failure, if possible.

2523-063 Node is not in my group, ignoring Node Connectivity message!

Explanation: Received a node connectivity message from a node that is not in my group.

User Response: Start the daemon the message is coming from, if problem persists.

2523-064 Node number for *adapter_offset* **is not valid, ignoring message!**

Explanation: The indicated adapter ID does not correspond to a valid node number.

User Response: Verify the source of the message.

2523-065 NCT unable to compute node reachability!

Explanation: Failure to compute node reachability.

User Response: Start the daemon again.

2523-066 Node number of *adapter_offset* in my group not found.

Explanation: Unable to map an adapter in my group to a node number.

User Response: If the problem persists, boot the daemon again.

2523-067 Adapter(*adapter_id*) at offset *adapter_offset* not found.

Explanation: Unable to find this group member in NCT.

User Response: If the problem persists, boot the daemon again.

2523-069 No members in current group.

Explanation: No members were found in the current group.

User Response: None.

2523-070 My adapter not in current group.

Explanation: The adapter is not a member of my own group.

User Response: None.

2523-071 Adapter *adapter_offset* is already in the current group.

Explanation: Attempted to merge groups that had a member in common.

User Response: None.

2523-072 Missing adapter not found in my group.

Explanation: Members to be removed from the group were already missing.

User Response: None.

2523-073 My node number is not defined.

Explanation: The node number is not defined.

User Response: Check for definition in **/var/ha/run/hats.<partition name>/machines.lst**.

2523-074 Adapter offset *adapter_offset* is not valid.

Explanation: Adapter offset indicated is out of range.

User Response: Specify a valid adapter offset.

2523-075 Old subscription entry *old_subscription_entry* still exists.

Explanation: An old subscription entry already exists.

User Response: The old subscription entry must be removed before a new one can be created.

2523-076 Unknown subscription type.

Explanation: Not a valid subscription type.

User Response: Specify a valid subscription type.

2523-077 Cannot send Hb_No_Event to clients.

Explanation: Not a valid event.

User Response: Specify a valid subscription event.

2523-078 Cannot send Hb_All_Events to clients.

Explanation: Not a valid event.

User Response: Specify a valid subscription event.

2523-079 Cannot send Unknown event to clients.

Explanation: Not a valid event.

User Response: Specify a valid subscription event.

2523-080 Cannot delete a NULL entry.

Explanation: Attempted to delete a null interest entry.

User Response: None.

2523-081 Cannot delete entry from an empty list.

Explanation: Attempted to delete a subscription entry from an empty list.

User Response: None.

2523-082 ACK retry count exhausted, no ACK sent.

Explanation: Already sent maximum number of retry ACKs.

User Response: None.

2523-083 Leader died and originator is not the crown prince.

Explanation: Group leader died and the PTC message was not from the crown prince.

User Response: None.

2523-084 From Id = *sender_ID* **From Group Id =** *sender_GID***.**

Explanation: Display sender's ID and GID.

User Response: None.

2523-085 Crown Prince Id = *ID***.**

Explanation: Display the crown prince's ID.

User Response: None.

2523-086 PTC NAK ignored, I am not the group leader.

Explanation: Received a PTC negative acknowledgement, but am not the group leader.

User Response: None.

2523-087 PTC NAK ignored, I am not committing.

Explanation: Received a PTC negative acknowledgement, but not processing a group change.

User Response: None.

2523-088 PTC NAK ignored, no longer in PTC mode.

Explanation: Receive a PTC negative acknowledgement, but no longer accepting them.

User Response: None.

2523-089 PTC ACK ignored, I am not the group leader.

Explanation: Received a PTC acknowledgement, but am not the group leader.

User Response: None.

2523-090 PTC ACK ignored, I am not committing.

Explanation: Received a PTC acknowledgement, but not processing a group change.

User Response: None.

2523-091 PTC ACK ignored, no longer in PTC mode.

Explanation: Received a PTC acknowledgement, but no longer accepting them.

User Response: None.

2523-092 JOIN request rejected, I am not the group leader.

Explanation: Received a JOIN request, but am not the group leader.

User Response: None.

2523-093 JOIN request rejected, I am currently busy.

Explanation: Received a JOIN request, but am currently busy handling group changes.

User Response: None.

2523-094 DEATH_IN_FAMILY ignored, not from a group member.

Explanation: Received a DEATH_IN_FAMILY message, but it wasn't from a group member.

User Response: None.

2523-095 DEATH_IN_FAMILY ignored, I am not the group leader.

Explanation: Received a DEATH_IN_FAMILY, but I am not the group leader.

User Response: None.

2523-096 DISSOLVE GROUP ignored, not from a group member.

Explanation: Received a DISSOLVE GROUP message from outside our group.

User Response: None.

2523-097 JOIN time has expired.

Explanation: Time is up for waiting for a reply to our JOIN request. Wait for another proclaim.

User Response: None.

2523-098 PTC ACK time has expired, committing group.

Explanation: Time is up for waiting for PTC acknowledgements, commit the group with the members that did acknowledge.

User Response: None.

2523-099 COMMIT BROADCAST ACK time has expired, ACKS missing.

Explanation: Not everyone acknowledged the commit broadcast message.

User Response: None.

2523-100 COMMIT ACK time has expired, not everyone ACKed.

Explanation: Everyone in the new group did not respond.

User Response: None.

2523-101 PTC ACK retry count exhausted.

Explanation: Commit never received.

User Response: None.

2523-102 COMMIT time has expired, re-initializing.

Explanation: Loss of communication with the leader — go singleton.

User Response: None.

2523-103 Received an unknown message type, message = *message_type***.**

Explanation: Message received is not recognized.

User Response: None.

2523-104 Malloc failed, size = *size***.**

Explanation: Not able to satisfy the memory request, indicative of a memory leak.

User Response: Start the daemon again.

2523-105 Group Connectivity Message from outside the configuration, ID=*ID***, ignored.**

Explanation: Received a group connectivity message from outside the configuration.

User Response: None.

2523-106 Open of css0 device failed.

Explanation: Unable to open **css** device.

User Response: Check permissions on /**dev**/**css0**.

2523-107 Css Ioctl Failed rc = *return_code* **errno =** *errno***.**

Explanation: The **ioctl** of the **css** device faled with the indicated return code and errno value.

User Response: Contact the IBM Support Center.

2523-108 Undefined return from switch ioctl = *return_value***.**

Explanation: The return value from **ioctl** of **css** device was unexpected.

User Response: Contact the IBM Support Center.

2523-111 Sending data to pid=*PID* would block, complete message not sent.

Explanation: Client socket not ready for sending.

User Response: None.

2523-112 Sending data to pid=*PID* interrupted and not restarted.

Explanation: Interrupted system call.

User Response: None.

2523-113 Sending data to pid=*PID* caused an IO ERROR.

Explanation: The client socket class caused an IO error.

User Response: None.

2523-114 Receiving data from pid=*PID* would block, complete message not received.

Explanation: The client socket is not read for reading.

User Response: None.

2523-115 Receiving data from pid=*PID* interrupted and not restarted.

Explanation: Interrupted system call.

User Response: None.

2523-116 Sending data to pid=*PID* caused an IO ERROR.

Explanation: The client socket class caused an IO error.

User Response: None.

2523-117 Client Socket Error ID = *error_ID*, not recognized.

Explanation: Unrecognized error from the client socket class.

User Response: None.

2523-118 sendto would block.

Explanation: The socket is not ready for sending.

User Response: None.

2523-119 recvfrom would block.

Explanation: Nothing to receive at this point.

User Response: None.

2523-120 recvfrom failure.

Explanation: Receive failure from the remote socket.

User Response: None.

2523-121 Late in sending Heartbeat by *seconds.microseconds* seconds.

Explanation: Heartbeats are sent out based on the time specified by the TS_Frequency tunable or defaults to 1 second. The daemon checks how much time has elapsed since the last heartbeat was sent. If the difference is greater than 2 times the TS_Frequency tunable, then this message displays how many seconds late it was.

User Response: None.

2523-122 *tunable_value*, Not a valid value for TS_Frequency; positive integer expected.

Explanation: The tunable value is encoded as part of the configuration and is specified in the TS_Config object in the SDR.

User Response: Specify a correct value.

2523-123 *tunable_value*, Not a valid value for TS_Sensitivity; positive integer expected.

Explanation: The tunable is encoded as part of the configuration and is specified in the TS_Config object in the SDR.

User Response: Specify a correct value.

2523-124 *tunable_value*, **Not a valid value for TS_FixedPriority; positive integer greater than 37 expected.**

Explanation: The tunable value is encoded as part of the configuration and is specified in the TS_Config object in the SDR.

User Response: Specify a correct value.

Chapter 59. 2530 - Node Grouping Command Line Messages

2530-001 Encountered a problem while assessing the SDR.

Explanation: Could not connect to the SDR.

User Response: Contact the system administrator.

2530-002 Insufficient operands supplied.

Explanation: Command requires more operands than were supplied.

User Response: Check the syntax and enter the command again.

2530-003 Must be root to create or modify a node group.

Explanation: The user must be root to perform this function.

User Response: Perform a su to the root to process this action.

2530-004 Could not create Node Group *node_group***.**

Explanation: The node group was not created.

User Response: See the previous message for an explanation of the problem. Check the error stack for more detailed information.

2530-005 Node group name must be supplied.

Explanation: A node group must be supplied to this command.

User Response: Check the syntax and enter the command again.

2530-006 SDR write problem.

Explanation: An error was encountered while trying to write to the SDR.

User Response: Check the error stack for further information, or contact the system administrator.

2530-007 Node Group *destination_node_group* **does not exist.**

Explanation: The supplied node group could not be found.

User Response: Run the command **nglist** to identify the node groups that have been defined.

2530-009 Adding to node group *destination_node_group* **failed.**

Explanation: The supplied nodes and node groups were not added.

User Response: Check the previous message for an explanation of the problem. Also check the error stack for more detailed information.

2530-010 Node group *destination_node_group* **was not created.** *Argument* **is not a valid argument.**

Explanation: The node group was not created.

User Response: Check the syntax and enter the command again.

2530-011 Too many operands supplied.

Explanation: Too many operands were supplied to the command.

User Response: Check the syntax and enter the command again.

2530-012 Command failed.

Explanation: The command did not complete successfully.

User Response: Check the previous message for an explanation of the problem. Also check the error stack for more detailed information.

2530-051 Could not delete Node Group *node_group_name***.**

Explanation: The node group was not successfully deleted.

User Response: Check the previous message for an explanation of the problem. Also check the error stack for more detailed information.

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2530-061 Removing from node group *node_group_name* failed.

Explanation: The members were not successfully removed from the node group.

User Response: Check the previous message for an explanation of the problem. Also check the error stack for more detailed information.

2530-101 Only one node group may be created.

Explanation: The command was not entered correctly.

User Response: Check the syntax and enter the command again.

2530-102 Node group *destination_node_group* was not created. Node range provided was not valid.

Explanation: No nodes were found within the supplied node range.

User Response: Enter the command again with the correct node range. You may want to run **splstdata** to identify which nodes are defined.

2530-103 Node group *destination_node_group* was not created. Could not find hostname.

Explanation: The supplied hostname was not found. Currently, a node group only contains nodes within the system partition, or within the SP system if the **-G** flag is supplied.

User Response: Enter the command again.

2530-104 Node group *destination_node_group* was not created. Frame range provided was not valid.

Explanation: No nodes were found within the supplied frame range.

User Response: Enter the command again with the correct frame range. You may want to run **splstdata** to identify which nodes and frames are defined.

Chapter 60. 2531 - System Partitioning Aid Messages

2531-001 Cannot open or access file *file_name*

Explanation: File does not exist or does not have proper permissions.

User Response: Verify the file exists and has the proper permissions.

2531-002 Cannot access working directory *full_path_to_working_directory***.**

Explanation: Directory does not exist or does not have proper permissions.

User Response: Verify the directory exists and has the proper permissions.

2531-003 Nodelist for system partition *partition_name* **has fewer nodes than the number of nodes specified for the partition.**

Explanation: Error in the input file.

User Response: Verify that the nodelist for partition *partition_name* contains the same number of nodes as the number of nodes specified for the partition.

2531-004 Nodelist for system partition *partition_name* **has more nodes than the number of nodes specified for the partition.**

Explanation: Error in the input file.

User Response: Verify that the nodelist for partition *partition_name* contains the same number of nodes as the number of nodes specified for the partition.

2531-005 Input file has more nodelists than the number of system partitions specified.

Explanation: Error in the input file.

User Response: Verify that the input file has the same number of nodelists as the number of partitions specified.

2531-006 A range specified under system partition *partition_name* **is incomplete or is not valid.**

Explanation: Input file error. Nodelist contains a range that is either incomplete or not valid.

User Response: Provide the correct range for node numbers or switch port numbers in the input file.

2531-007 Input file does not contain a nodelist for each system partition specified.

Explanation: Error in the input file.

User Response: Verify that the input file has the same number of nodelists as the number of partitions specified.

2531-008 Node number *node_number* **not found in the SDR.**

Explanation: The node number is not found in the SDR.

User Response: Verify the input file contains valid node numbers.

2531-009 Cannot access or create *current_directory*/*next_directory***.**

Explanation: The current directory (in the target directory path) does not have the right access permission.

User Response: Provide a path to the desired target directory, which has the correct access permission.

2531-010 The layout directory *layout_directory_name* **already exists. Provide a different location.**

Explanation: The directory where the layout is saved already exists.

User Response: Provide a new layout directory name for **sysparaid** to create and save the newly generated layout.

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2531-011 You do not have permission to save the layout in *base_dir_name*/*sysdir_name*/*config_name*/**layout.***layout_name***.**

Explanation: Path to the desired target directory does not have the right access permission.

User Response: Provide a path to the desired target directory, which has the correct access permission.

2531-012 Layout not saved. A layout can be saved in the system partition directory tree only when the -s option is invoked with a file name extension for layout directory.

Explanation: A layout cannot be saved in the system partition directory tree if a fullpath starting with /**spdata** is given with **-s** option.

User Response: Invoke the **-s** option with a file name extension for the layout.

2531-013 The layout directory *base_dir_name*/*sysdir_name*/*config_name*/**layout.** *layout_name* **already exists. Provide a different location.**

Explanation: The directory under which the layout is to be saved already exists.

User Response: Provide a new layout directory name for sysparaid to create and save the newly generated layout.

2531-014 Cannot remove old files from the working directory *working_directory***.**

Explanation: The working directory does not have write permission.

User Response: Provide a working directory that you have write permission to.

2531-015 System Partition *partition_name* **has been defined more than once in the input file.**

Explanation: Error in the input file.

User Response: Verify that a partition is defined only once in the input, that is, make sure that a partition name is not repeated.

2531-016 The total number of nodes in the nodelists does not match the number of nodes in the system.

Explanation: Error in the input file.

User Response: Verify that the total number of nodes in the nodelists is equal to the number of nodes specified.

2531-017 The number of nodes in system partition *partition_name* **not specified.**

Explanation: Error in the input file.

User Response: Verify that the number of nodes in each system partition is specified before providing the nodelist for the partition.

2531-018 The input file *file_name* **has not been formatted correctly.**

Explanation: The input file format is wrong or a wrong file name has been provided.

User Response: Verify the specified input file has the same format as the template file /**spdata**/**sys1**/**syspar_configs**/**bin**/**inpfile.template**.

2531-019 Cannot save the layout. There is not enough space in the file system.

Explanation: The file system is full.

User Response: Create space in the file system.

2531-101 Input Error. The switch port number *switch_port_number* **is above the system limit.**

Explanation: Input file contains a switch port number *switch_port_number* that is above the system limit.

User Response: Verify that the input file contains switch port numbers within the correct range.

2531-102 Input Error. The node or the switch chip linked to switch port number *switch_port_number* **has already been assigned to system partitions** *partition_name* **and** *partition_name*.

Explanation: The same switch node or chip is assigned to two different partitions.

User Response: Verify that nodes or switch ports linked to the same chip are assigned to only one system partition in the input file.

2531-103 Violation of Rule 1: A switch chip cannot be part of more than one system partition. Switch chips connected to switch port number *switch_port_number*, **in partition** *partition_name*, **has already been assigned to partition** *partition_name*.

Explanation: Two nodes or switch ports connected to the same switch chip have been placed in two different system partitions.

User Response: Modify the input file so that all nodes or switch ports connected to the same switch chip are in the same partition.

2531-104 Violation of Rule 2: No node switch board can be part of more than two multi-chip partitions. No link switch chips are available on board *switch_board_id* **for system partition** *partition_name*.

Explanation: No link switch chips are available for a system partition, because all link switch chips have been assigned to other partitions.

User Response: Modify the input requirement so that no node switch board is part of more than two multi-chip system partitions.

2531-105 Needed link switch chips 0 and 1 are not available on board *switch_board_id* **for partition** *partition_name*.

Explanation: Link switch chips 0 and 1 on some node switch boards have been assigned to this system partition, but are not available on one of the switch boards.

User Response: Try a different system partition configuration.

2531-106 Needed link switch chips 2 and 3 are not available on board *switch_board_id* **for partition** *partition_name*.

Explanation: Link switch chips 2 and 3 on some node switch boards have been assigned to this system partition, but are not available on one of the switch boards.

User Response: Try a different system partition configuration.

2531-107 No switch chips are available on intermediate switch boards for partition *partition_name*.

Explanation: More interboard system partitions have been specified than the partitioning algorithm can accommodate.

User Response: Reduce the number of multiboard system partitions specified. View the current chip allocation saved in **spa.snapshot**.

Chapter 61. 2532 - Problem Management Messages

2532-000 SMUX API error. Function=*function*; smux_error=*error*; smux_info=*info*.

Explanation: The SP SNMP proxy subagent called the specified SMUX function, which returned the indicated error.

User Response: The SP SNMP proxy subagent will attempt to reconnect to the AIX SNMP agent every 5 seconds. Ensure that snmpd is active. If the problem persists, save the message data and contact the IBM support center.

2532-001 SP SNMP proxy agent terminating due to an SDR error. Function=*function*; errno=*error*.

Explanation: The SP SNMP proxy subagent issued a System Data Repository (SDR) function call and received the indicated error return code.

User Response: Ensure that the SDR is active. If the problem persists, save the message data and contact the IBM support center.

2532-002 EM API error. Function=*function*; partition=*partition*; EM_Errmsg=*error*.

Explanation: The SP SNMP proxy subagent issued an Event Management (EM) function call and received the indicated error message. The EM connection is closed and an attempt to reopen the EM connection is attempted periodically.

User Response: Ensure that the EM is active. If the problem persists, save the message data and contact the IBM support center.

2532-003 Invalid switch value ignored. Switch=*switch*; invalid value=*value*; value used=*value_used*.

Explanation: The SP SNMP proxy subagent determined that a switch, which had a value that was not valid, was specified when starting the SP SNMP proxy subagent.

User Response: The indicated value is used for the switch.

2532-004 Invalid switch ignored. Switch=*switch*.

Explanation: The SP SNMP proxy subagent determined that an switch, which was not valid, was specified when starting the SP SNMP proxy subagent.

User Response: The switch is ignored.

2532-005 Invalid parameter ignored; only switches may be specified. Parameter=*parameter*.

Explanation: The SP SNMP proxy subagent determined that a parameter other than a switch was specified when starting the SP SNMP proxy subagent.

User Response: The parameter is ignored.

2532-006 SMUX function error. Function=*function*; object=*object*; result=*result*.

Explanation: The SP SNMP proxy subagent called the indicated SMUX function, which returned an error code with the indicated result.

User Response: Save message data and contact the IBM Support Center.

2532-007 Error starting the SP SNMP proxy subagent. Msg=*message*.

Explanation: The SP SNMP proxy subagent invoked daemon initialization logic, **dae_init()**, which returned the indicated error message. Start processing for the SP SNMP proxy agent ended.

User Response: Only a single instance of the daemon may be running on a node. Correct the error sequence indicated in the message and start the sp_configd daemon again, if appropriate.

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2532-008 Unable to create FIFO *fifo*. The SP SNMP proxy agent is terminating. Errno=*errno*; SysMsg=*system_message*.

Explanation: The SP SNMP proxy subagent was unable to create the indicated FIFO. The **mknod()** function returned the errno value.

User Response: Correct the problem indicated by the **mknod()** function and start the SP SNMP proxy subagent.

2532-009 popen() failure. The SP SNMP proxy agent is terminating. Command=*command*.

Explanation: The SP SNMP proxy subagent called the AIX **popen()** function to issue the specified command in order to obtain the node number of the host on which the daemon is running.

User Response: Ensure that the specified command is available. If the problem persists, save the message data and contact the IBM Support Center.

2532-010 node_number command failure. The SP SNMP proxy agent is terminating.

Explanation: The SP SNMP proxy subagent called the AIX **popen()** function to issue the specified command in order to obtain the node number of the host on which the daemon is running. The **node_number** command did not return a numeric value.

User Response: Ensure that the specified command is working correctly. If the problem persists, save the message data and contact the IBM Support Center.

2532-011 SDR error. Function=*function*; errno=*errno*.

Explanation: The SP SNMP proxy subagent called the indicated function, which returned a non-zero return code.

User Response: Ensure that the SDR is active. If the problem persists, save the message data and contact the IBM Support Center.

2532-012 Unable to open FIFO *fifo* for writing. The SP SNMP proxy agent is terminating. Errno=*errno*.

Explanation: The SP SNMP proxy subagent was unable to open the indicated FIFO. The AIX **open()** function returned the specified error number.

User Response: Check the attribute on the specified file and start the SP SNMP proxy subagent. If the problem persists, save the message data and contact the IBM Support Center.

2532-013 Unable to open FIFO *fifo* for reading. The SP SNMP proxy agent is terminating. Errno=*errno*.

Explanation: The SP SNMP proxy subagent was unable to open the indicated FIFO. The AIX **open()** function returned the specified error number.

User Response: Check the attribute on the specified file and start the SP SNMP proxy subagent again. If the problem persists, save the message data and contact the IBM Support Center.

2532-014 There is no SMUX entry for sp_configd in the *file* file. The SP SNMP proxy agent is terminating.

Explanation: The SP SNMP proxy subagent issued a **getsmuxEntrybyname()** function call, which returned an error.

User Response: Ensure that there is a SMUX entry for the sp_configd daemon in the specified file and start the SP SNMP proxy subagent again. If the problem persists, save the message data and contact the IBM Support Center.

2532-015 There are no MIB definitions in the *file* file.

Explanation: The SP SNMP proxy subagent issued a **readobjects()** function call, which returned an error.

User Response: Ensure that the specified file exists and start the SP SNMP proxy subagent again. If the problem persists, save the

message data and contact the IBM Support Center.

2532-016 There is no MIB definition for the *object* object in the *file* file. The SP SNMP proxy agent is terminating.

Explanation: The SP SNMP proxy subagent, issued a **text2obj()** function call, which returned an error.

User Response: Ensure that the specified object is defined in the specified file and start the SP SNMP proxy subagent again. If problem persists, save the message data and contact the IBM Support Center.

2532-017 Could not allocate memory. The SP SNMP proxy agent is terminating. Request=*request*; bytes requested=*bytes_requested*.

Explanation: The SP SNMP proxy subagent issued the specified request to allocate storage, which returned an error. Memory could not be allocated for the named data structure.

User Response: Save the message data and contact the IBM Support Center.

2532-018 System call error. The SP SNMP proxy agent is terminating. Errno=*errno*; SystemMsg=*system_message*.

Explanation: This message indicates a problem with a kernel system interface.

User Response: Save the message data and contact the IBM Support Center.

2532-019 System call error. SNMP request response terminated. Errno=*errno*; SystemMsg=*system_message*.

Explanation: This message indicates a problem with a kernel system interface.

User Response: Save the message data and contact the IBM Support Center.

2532-020 SMUX MIB object registration failure. Object=*object*.

Explanation: The SP SNMP proxy subagent received a failure response from the AIX snmpd daemon, resulting from a request to register the MIB variable specifed in the Object. Objects maintained by the SP agent underneath this object in the ibmSP miib are unavailable.

User Response: Check the /etc/mib.defs file to make sure the ibmSPMIB is defined there. If it is not, 'cat' the /usr/lpp/ssp/config/snmp_proxy/ibmSPMIB.defs file to the end of the /etc/mib.defs file. Save the message data and contact the IBM Support Center.

Chapter 62. 5025 Messages - dsh and Parallel Commands Messages

5025-501 No alphanumeric characters, command not issued.

Explanation: You entered a command to the program without any valid characters.

User Response: Enter the corrected command.

5025-502 Extraneous option - *option*

Explanation: You specified an extraneous option on the command.

User Response: Enter the corrected command.

5025-503 Invalid argument - *argument*

Explanation: You specified an invalid argument to the command.

User Response: Enter the corrected command.

5025-504 Missing argument

Explanation: You specified an option that requires an argument without supplying the argument.

User Response: Enter the corrected command.

5025-505 Invalid option - *option*

Explanation: You specified an invalid option on the command.

User Response: Enter the corrected command.

5025-506 Missing option

Explanation: You omitted an option on the command.

User Response: Enter the corrected command.

5025-507 Working collective environment variable not set

Explanation: The command expects the **WCOLL** environment variable to be set since no working collective was specified on the command line.

User Response: Set **WCOLL** to the name of a file containing the working collective.

5025-508 Cannot open working collective file *file name***:** *system message*

Explanation: The working collective file could not be opened

User Response: Check the system message, fix the problem, and enter the command again.

5025-509 *hostname* **rsh had exit code** *return code*

Explanation: The **rsh** to the specified hostname failed with the specified exit code.

User Response: Determine why the **rsh** is not working to the host, fix the problem, and retry the command.

5025-510 Caught SIG*signal* **- terminating the child processes**

Explanation: The command has caught the specified signal and will issue **SIGTERMs** to any outstanding **rsh** child processes.

User Response: None

5025-511 No hosts in working collective

Explanation: There are no hosts in the working collective. A possibility is that the program has removed the last hosts(s) from the collective since the **rsh** to it has failed

User Response: Ensure that the hosts in the working collective are responding and retry the command.

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5025-512 Could not pipe

Explanation: The program could not issue a pipe system call.

User Response: Contact system support.

5025-513 Cannot redirect *file name*

Explanation: The command could not redirect file output.

User Response: Contact system support.

5025-514 System Data Repository down

Explanation: The System Data Repository is not working and the program cannot obtain needed information from it.

User Response: Contact system support.

5025-515 Hostname *hostname* **unresolvable**

Explanation: The hostname specified could not be found by the program

User Response: Check to see if the hostname has been specified correctly. If it has, contact system support, or else correct it and re-issue the program.

5025-516 Warning - Specified node not in cluster.

Explanation: The node number specified is not in the cluster.

User Response: Check to see if the node has been specified correctly. If it has, talk to system support, else correct it and re-issue the program command.

5025-517 File *file name* **contains POE pools, not supported.**

Explanation: The POE file contained a POE pool specification.

User Response: Use a POE file without the pool specification.

5025-518 Cannot open host file *file name***.**

Explanation: The host file specified could not be opened.

User Response: Check to see if the host file name has been specified properly; if it has, talk to system support, else correct it and re-issue the program command.

5025-519 No working collective or POE file found.

Explanation: No working collective file or POE file was found.

User Response: Check the WCOLL or MP_HOSTFILE environment variables to see if they specify a valid file of hostnames.

5025-600 Multiple occurrences of flag found.

Explanation: Only one of **-kill**, **-nice**, or **-print** flags may be specified.

User Response: Enter the command again with an appropriate flag.

5025-601 One of -print, -kill, or -nice flags must be specified.

Explanation: One of **-kill**, **-nice**, or **-print** flags must be specified.

User Response: Enter the command again with an appropriate flag.

5025-602 Parentheses unbalanced.

Explanation: Unequal number of left and right parentheses in expression.

User Response: Enter the command again with matching left and right parentheses.

5025-603 Error in input line:

Explanation: Input line to filter is in improper form.

User Response: Correct input to hostname: command.

5025-604 Missing argument for option:

Explanation: An option that expects an argument doesn't find one.

User Response: Correct input.

5025-550 Only allowable flag is -b

Explanation: You specified an invalid option or flag.

User Response: Correct the command and enter it again.

5025-551 Uninitialized field in SDR record: *record*

Explanation: The System Data Repository has incomplete information and the command cannot continue.

User Response: Contact system support.

5025-552 System Data Repository down

Explanation: The System Data Repository is not working and **seqfile** cannot obtain needed information from it.

User Response: Contact system support.

Chapter 63. 2536 Messages - SNMP Manager for Dependent Nodes Messages

2536-000 Cannot write to log file *trace file name*, *error indication*.

Explanation: The SNMP Manager for Dependent Nodes, spmgrd, was unable to record an entry in its trace file. spmgrd processing continues.

User Response: Correct the indicated error condition.

2536-001 *file name* **cannot be opened for tracing.**

Explanation: An open for the indicated trace file failed.

User Response: The trace file name was probably misspelled. Correct the trace file name and restart the spmgr subsystem.

2536-003 spmgrd terminated - *reason for termination*

Explanation: The spmgrd daemon terminated as a result of the failure.

User Response: Correct the failure and restart the spmgr subsystem

2536-004 Current system max limit on the trace file *current max size*, **is less than the requested max size** *request max size*.

Explanation: The current max size is used as the file size limit.

User Response: Either reenter a new maximum file size or do nothing and accept the maximum file size stated in the error message.

2536-005 Authentication failure notification received from host *hostname*

Explanation: An SNMP message was received by the SNMP agent running on the specified host which had a community name within it which did not match the community name the agent associates with the sending host.

User Response: Verify that the community name sent by the SNMP agent running on this host is the same as the community name specified for this host on the host on which the SNMP agent is running

2536-006 spmgrd terminated: it only runs on the Control Workstation

Explanation: The **spmgrd** daemon only runs on the control workstation.

User Response: The **ssp.spmgr** file set should only be installed on the SP control workstation. This condition should not occur. Contact IBM service for more information.

2536-007 An authentication failure notification was received from an SNMP Agent running on host *hostname* **which supports Dependent Nodes.**

Explanation: An SNMP message was received by the SNMP agent running on the specified host which had a community name within it which did not match the community name the agent associates with the sending host.

User Response: Verify that the community name sent by the SNMP agent running on this host is the same as the community name specified for this host on the host on which the SNMP agent is running.

2536-008 The following trap from agent *object identifier*, **running on hostname** *hostname* **contains an unknown OID in its variable binding:**

Ticks: *time ticks value from the trap message*

Typ: *generic trap type*

Object *unknown object identifier*

Explanation: The SNMP agent for dependent nodes sent a trap containing an erroneous variable binding.

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User Response: Consult the vendor supplying the SNMP agent.

2536-009 **The following trap from agent** *object identifier***, running on hostname** *hostname* **contains the wrong object in its variable binding.**

Ticks: *time ticks value from the trap message*

Typ: *generic trap type*

Object *unknown object identifier*

Explanation: The SNMP agent for dependent nodes sent a trap containing an erroneous variable binding.

User Response: Consult the vendor supplying the SNMP agent

2536-010 **gethostbyaddr() failed for ipaddr** *IP address* **with return code** *failure code: failure description***.**

Explanation: The message from the agent is ignored.

User Response: Correct the failure cause.

2536-011 **The following trap from agent** *object identifier* **running on hostname** *hostname* **contains an invalid instance id:**

Ticks: *time ticks value from the trap message*

Typ: *generic trap type and specific trap type*

Object *object identifier*

Explanation: The SNMP agent for dependent nodes sent a trap containing an instance id that did not identify an extension node (i.e. dependent node).

User Response: Consult the vendor supplying the SNMP agent.

2536-012 **The following trap from agent** *object identifier***, running on hostname** *hostname* **contains an invalid value.**

Ticks: *time ticks value from the trap message*

Typ: *generic trap type and specific trap type*

Object *object identifier*

Value: *Invalid value*

Explanation: The SNMP agent for dependent nodes sent a trap containing an invalid value.

User Response: The trap is ignored; consult the vendor supplying the SNMP agent.

2536-013 **Trap from host** *hostname* **contains an invalid value.**

Explanation: The SNMP agent for dependent nodes sent a trap containing an invalid value.

User Response: The trap is ignored; to capture further information about the trap, run the **spmgrd** with long tracing enabled. Consult the vendor supplying the SNMP agent.

2536-014 **Trap from host** *hostname* **contains an invalid instance id.**

Explanation: The SNMP agent for dependent nodes sent a trap containing an invalid instance identifier.

User Response: The trap is ignored; to capture further information about the trap, run the **spmgrd** with long tracing enabled. Consult the vendor supplying the SNMP agent.

2536-015 **Trap from host** *hostname* **contains erroneous variable binding.**

Explanation: The SNMP agent for dependent nodes sent a trap containing the wrong object instance in its variable binding.

User Response: The trap is ignored; to capture further information about the trap, run the **spmgrd** with long tracing enabled. Consult the vendor supplying the SNMP agent.

2536-016 Trap from host *hostname* contains unknown OID in its variable binding.

Explanation: The SNMP agent for dependent nodes sent a trap containing an unknown OID in its variable binding.

User Response: The trap is ignored; to capture further information about the trap, run the **spmgrd** with long tracing enabled. Consult the vendor supplying the SNMP agent.

Glossary of Terms and Abbreviations

This glossary includes terms and definitions from:

- The *IBM Dictionary of Computing*, New York: McGraw-Hill, 1994.
- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright 1990 by the American National Standards Institute (ANSI). Copies can be purchased from the American National Standards Institute, 1430 Broadway, New York, New York 10018. Definitions are identified by the symbol (A) after the definition.
- The *ANSI/EIA Standard - 440A: Fiber Optic Terminology*, copyright 1989 by the Electronics Industries Association (EIA). Copies can be purchased from the Electronic Industries Association, 2001 Pennsylvania Avenue N.W., Washington, D.C. 20006. Definitions are identified by the symbol (E) after the definition.
- The *Information Technology Vocabulary*, developed by Subcommittee 1, Joint Technical Committee 1, of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC1/SC1). Definitions of published parts of this vocabulary are identified by the symbol (I) after the definition; definitions taken from draft international standards, committee drafts, and working papers being developed by ISO/IEC JTC1/SC1 are identified by the symbol (T) after the definition, indicating that final agreement has not yet been reached among the participating National Bodies of SC1.

The following cross-references are used in this glossary:

Contrast with. This refers to a term that has an opposed or substantively different meaning.

See. This refers the reader to multiple-word terms in which this term appears.

See also. This refers the reader to terms that have a related, but not synonymous, meaning.

Synonym for. This indicates that the term has the same meaning as a preferred term, which is defined in the glossary.

This section contains some of the terms that are commonly used in the SP publications.

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Other definitions in this glossary are taken from *IBM Vocabulary for Data Processing, Telecommunications, and Office Systems* (SC20-1699) and *IBM DATABASE 2 Application Programming Guide for TSO Users* (SC26-4081).

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A

address. A character or group of characters that identifies a register, a device, a particular part of storage, or some other data source or destination.

AFS. A distributed file system that provides authentication services as part of its file system creation.

AIX. Abbreviation for Advanced Interactive Executive, IBM's licensed version of the UNIX operating system. AIX is particularly suited to support technical computing applications, including high function graphics and floating point computations.

AIX Version 3. The IBM AIX Version 3 for RS/6000 (also known as AIX/6000). It is based on UNIX System V, conforms with POSIX IEEE Standard 1003.1, is compatible with Berkeley Software Distribution 4.3 (4.3 BSD), and is designed to meet Trusted Computing Base level C2 security.

Amd. Berkeley Software Distribution automount daemon.

API. Application Programming Interface. A set of programming functions and routines that provide access between the Application layer of the OSI seven-layer model and applications that want to use the network. It is a software interface.

application. The use to which a data processing system is put; for example, a payroll application, an airline reservation application.

application data. The data that is produced using an application program.

ARP. Address Resolution Protocol.

ATM. Asynchronous Transfer Mode. (See *TURBOWAYS 100 ATM Adapter*.)

Authentication. The process of validating the identity of a user or server.

Authorization. The process of obtaining permission to perform specific actions.

B

batch processing. * (1) The processing of data or the accomplishment of jobs accumulated in advance in such a manner that each accumulation thus formed is processed or accomplished in the same run. * (2) The processing of data accumulating over a period of time. * (3) Loosely, the execution of computer programs serially. (4) Computer programs executed in the background.

BMCA. Block Multiplexer Channel Adapter. The block multiplexer channel connection allows the RS/6000 to communicate directly with a host System/370 or System/390; the host operating system views the system unit as a control unit.

C

call home function. The ability of a system to call the IBM support center and open a PMR to have a repair scheduled.

CDE. Common Desktop Environment. A graphical user interface for UNIX.

charge feature. An optional feature for either software or hardware for which there is a charge.

CLI. Command Line Interface.

client. * (1) A function that requests services from a server and makes them available to the user. * (2) A term used in an environment to identify a machine that uses the resources of the network.

Client Input/Output Sockets (CLIO/S). A software package that enables high-speed data and tape access between SP systems, AIX systems, and ES/9000 mainframes.

CLIO/S. Client Input/Output Sockets.

CMI. Centralized Management Interface provides a series of SMIT menus and dialogues used for defining and querying the SP system configuration.

connectionless. A communication process that takes place without first establishing a connection.

connectionless network. A network in which the sending logical node must have the address of the receiving logical node before information interchange can begin. The packet is routed through nodes in the network based on the destination address in the packet. The originating source does not receive an acknowledgment that the packet was received at the destination.

control workstation. A single point of control allowing the administrator or operator to monitor and manage the SP system using the IBM AIX Parallel System Support Programs.

css. Communication subsystem.

D

daemon. A process, not associated with a particular user, that performs system-wide functions such as administration and control of networks, execution of time-dependent activities, line printer spooling and so forth.

DASD. Direct Access Storage Device. Storage for input/output data.

DCE. Distributed Computing Environment.

DFS. distributed file system. A subset of the IBM Distributed Computing Environment.

DNS. Domain Name Service. A hierarchical name service which maps high level machine names to IP addresses.

E

Error Notification Object. An object in the SDR that is matched with an error log entry. When an error log entry occurs that matches the Notification Object, a user-specified action is taken.

ESCON. Enterprise Systems Connection. The ESCON channel connection allows the RS/6000 to communicate directly with a host System/390; the host operating system views the system unit as a control unit.

Ethernet. (1) Ethernet is the standard hardware for TCP/IP local area networks in the UNIX marketplace. It is a 10-megabit per second baseband type LAN that allows multiple stations to access the transmission medium at will without prior coordination, avoids contention by using carrier sense and deference, and resolves contention by collision detection (CSMA/CD). (2) A passive coaxial cable whose interconnections contain devices or components, or both, that are all active. It uses CSMA/CD technology to provide a best-effort delivery system.

Ethernet network. A baseband LAN with a bus topology in which messages are broadcast on a coaxial cabling using the carrier sense multiple access/collision detection (CSMA/CD) transmission method.

event. In Event Management, the notification that a predicate evaluated to true. This evaluation occurs each time an instance of a resource variable is observed.

expect. Programmed dialogue with interactive programs.

F

failover. Also called fallover, the sequence of events when a primary or server machine fails and a secondary or backup machine assumes the primary workload. This is a disruptive failure with a short recovery time.

fall back. Also called fall back, the sequence of events when a primary or server machine takes back control of its workload from a secondary or backup machine.

FDDI. Fiber Distributed Data Interface.

Fiber Distributed Data Interface (FDDI). An American National Standards Institute (ANSI) standard for 100-megabit-per-second LAN using optical fiber cables. An FDDI local area network (LAN) can be up to 100 km (62 miles) and can include up to 500 system units. There can be up to 2 km (1.24 miles) between system units and/or concentrators.

File Transfer Protocol (FTP). The Internet protocol (and program) used to transfer files between hosts. It is an application layer protocol in TCP/IP that uses TELNET and TCP protocols to transfer bulk-data files between machines or hosts.

file. * A set of related records treated as a unit, for example, in stock control, a file could consist of a set of invoices.

file server. A centrally located computer that acts as a storehouse of data and applications for numerous users of a local area network.

foreign host. Any host on the network other than the local host.

FTP. File transfer protocol.

G

gateway. An intelligent electronic device interconnecting dissimilar networks and providing protocol conversion for network compatibility. A gateway provides transparent access to dissimilar networks for nodes on either network. It operates at the session presentation and application layers.

H

HACMP/6000. AIX High Availability Cluster Multi-Processing/6000.

HACWS. High Availability Control Workstation function, based on HACMP/6000, provides for a backup control workstation for the SP system.

help key. In the SP graphical interface, the key that gives you access to the SP graphical interface help facility.

High Availability Cluster Multi-Processing/6000. An IBM facility to cluster nodes or components to provide high availability by eliminating single points of failure.

High Performance Switch. An IBM multi-stage packet switch for high-performance communication between processor nodes.

HiPPI. High Performance Parallel Interface. RS/6000 units can attach to a HiPPI network as defined by the ANSI specifications. The HiPPI channel supports burst rates of 100 Mbps over dual simplex cables; connections can be up to 25 km in length as defined by the standard and can be extended using third-party HiPPI switches and fiber optic extenders.

home directory. The directory associated with an individual user.

host. A computer connected to a network, and providing an access method to that network. A host provides end-user services.

HSD. The data striping device for the IBM Virtual Shared Disk. The device driver lets application programs stripe data across physical disks in multiple IBM Virtual Shared Disks, thus reducing I/O bottlenecks and hot spots.

I

instance vector. In Event Management, a set of elements, where each element is a name/value pair of the form `name=value`, whose values uniquely identify the copy of the resource (and by extension, the copy of the resource variable) in the system.

Internet. A specific inter-network consisting of large national backbone networks such as APARANET, MILNET, and NSFnet, and a myriad of regional and campus networks all over the world. The network uses the TCP/IP protocol suite.

Intermediate Switch Board. Switches mounted in the High Performance Switch expansion frame.

IP address. A 32-bit address assigned to devices or hosts in an IP internet that maps to a physical address. The IP address is composed of a network and host portion.

Internet Protocol (IP). (1) A protocol that routes data through a network or interconnected networks. IP acts as an interface between the higher logical layers and the physical network. This protocol, however, does not provide error recovery, flow control, or guarantee the reliability of the physical network. IP is a connectionless protocol. (2) A protocol used to route data from its source to it destination in an Internet environment.

ISB. Intermediate Switch Board.

K

Kerberos. A service for authenticating users in a network environment.

kernel. The core portion of the UNIX operating system which controls the resources of the CPU and allocates them to the users. The kernel is memory-resident, is said to run in “kernel mode” and is protected from user tampering by the hardware.

L

LAN. (1) Acronym for Local Area Network, a data network located on the user's premises in which serial transmission is used for direct data communication among data stations. (2) Physical network technology that transfers data a high speed over short distances. (3) A network in which a set of devices is connected to another for communication and that can be connected to a larger network.

local host. The computer to which a user's terminal is directly connected.

log database. A persistent storage location for the logged information.

log event. The recording of an event.

log event type. A particular kind of log event that has a hierarchy associated with it.

logging. The writing of information to persistent storage for subsequent analysis by humans or programs.

M

mask. To use a pattern of characters to control retention or elimination of portions of another pattern of characters.

menu. A display of a list of available functions for selection by the user.

Motif. The graphical user interface for OSF, incorporating the X Window System. Also called OSF/Motif.

MTBF. Mean time between failure. This is a measure of reliability.

MTTR. Mean time to repair. This is a measure of serviceability.

N

naive application. An application with no knowledge of a server that fails over to another server. Client to server retry methods are used to reconnect.

network. An interconnected group of nodes, lines, and terminals. A network provides the ability to transmit data to and receive data from other systems and users.

NFS. Network File System. NFS allows different systems (UNIX or non-UNIX), different architectures, or vendors connected to the same network, to access remote files in a LAN environment as though they were local files.

NIM. Network Installation Management is provided with AIX 4.1 to install AIX on the nodes.

NIM client. An AIX system installed and managed by a NIM master. NIM supports three types of clients:

- Standalone
- Diskless
- Dataless

NIM master. An AIX system that can install one or more NIM clients. An AIX system must be defined as a NIM master before defining any NIM clients on that system. A NIM master managers the configuration database containing the information for the NIM clients.

NIM object. A representation of information about the NIM environment. NIM stores this information as objects in the NIM database. The types of objects are:

- Network
- Machine
- Resource

NIS. Network Information System.

node. In a network, the point where one or more functional units interconnect transmission lines. A computer location defined in a network.

Node Switch Board. Switches mounted on frames that contain nodes.

NSB. Node Switch Board.

NTP. Network Time Protocol.

O

ODM. Object Data Manager. In AIX, a hierarchical object-oriented database for configuration data.

P

parallel environment. A system environment where message passing or SP resource manager services are used by they application.

Parallel Environment. A licensed IBM program used for message passing applications on the SP or RS/6000 platforms.

parallel processing. A multiprocessor architecture which allows processes to be allocated to tightly coupled multiple processors in a cooperative processing environment, allowing concurrent execution of tasks.

parameter. * (1) A variable that is given a constant value for a specified application and that may denote the application. * (2) An item in a menu for which the operator specifies a value or for which the system provides a value when the menu is interpreted. * (3) A name in a procedure that is used to refer to an argument that is passed to the procedure. * (4) A particular piece of information that a system or application program needs to process a request.

partition. See system partition.

Perl. Practical Extraction and Report Language.

pipe. A UNIX utility allowing the output of one command to be the input of another. Represented by the | symbol. It is also referred to as filtering output.

perspective. The primary window for each SP Perspectives application, so called because it provides a unique view of an SP system.

POE. Formerly Parallel Operating Environment, now Parallel Environment for AIX.

port. (1) An end point for communication between devices, generally referring to physical connection. (2) A 16-bit number identifying a particular TCP or UDP resource within a given TCP/IP node.

predicate. In Event Management, the relational expression between a resource variable and other elements (such as constants or the previous value of an instance of the variable) that, when true, generates an event. An example of a predicate is `X < 10` where X represents the resource variable `IBM.PSSP.aixos.PagSp.%totalfree` (the percentage of total free paging space). When the predicate is true, that is, when the total free paging space is observed to

be less than 10%, the Event Management subsystem generates an event to notify the appropriate application.

process. * (1) A unique, finite course of events defined by its purpose or by its effect, achieved under defined conditions. * (2) Any operation or combination of operations on data. * (3) A function being performed or waiting to be performed. * (4) A program in operation. For example, a daemon is a system process that is always running on the system.

protocol. A set of semantic and syntactic rules that defines the behavior of functional units in achieving communication.

PMR. Problem Management Report.

Problem Management Report. The number in the IBM support mechanism that represents a service incident with a customer.

Primary node or machine. (1) A device that runs a workload and has a standby device ready to assume the primary workload if that primary node fails or is taken out of service. (2) A node on the High Performance Switch that initializes, provides diagnosis and recovery services, and performs other operations to the switch network. (3) In IBM Virtual Shared Disk function, the node at which the logical volume is actually local and that acts as server node to I/O requests from other nodes.

R

RAID. Redundant array of independent disks.

rearm predicate. In Event Management, a predicate used to generate an event that alternates with an original event predicate in the following way: the event predicate is used until it is true, then the rearm predicate is used until it is true, then the event predicate is used, and so on. The rearm predicate is commonly the inverse of the event predicate (for example, a resource variable is on or off). It can also be used with the event predicate to define an upper and lower boundary for a condition of interest.

remote host. *See foreign host*.

resource. In Event Management, an entity in the system that provides a set of services. Examples of resources include hardware entities such as processors, disk drives, memory, and adapters, and software entities such as database applications, processes, and file systems. Each resource in the system has one or more attributes that define the state of the resource.

resource monitor. A program that supplies information about resources in the system. It can be a command, a daemon, or part of an application or subsystem that manages any type of system resource.

resource variable. In Event Management, the representation of an attribute of a resource. An example of a resource variable is `IBM.AIX.PagSp.%totalfree`, which represents the percentage of total free paging space. `IBM.AIX.PagSp` specifies the resource name and `%totalfree` specifies the resource attribute.

RISC. Reduced Instruction Set Computing (RISC), the technology for today's high performance personal computers and workstations, was invented in 1975. Uses a small simplified set of frequently used instructions for rapid execution.

rlogin (remote LOGIN). A service offered by Berkeley UNIX systems that allows authorized users of one machine to connect to other UNIX systems across a network and interact as if their terminals were connected directly. The rlogin software passes information about the user's environment (for example, terminal type) to the remote machine.

RPC. Acronym for Remote Procedure Call, a facility that a client uses to have a server execute a procedure call. This facility is composed of a library of procedures plus an XDR.

RSH. A variant of RLOGIN command that invokes a command interpreter on a remote UNIX machine and passes the command line arguments to the command interpreter, skipping the LOGIN step completely. See also *rlogin*.

S

SCSI. Small Computer System Interface.

server. (1) A function that provides services for users. A machine may run client and server processes at the same time. (2) A machine that provides resources to the network. It provides a network service, such as disk storage and file transfer, or a program that uses such a service. (3) A device, program, or code module on a network dedicated to providing a specific service to a network. (4) On a LAN, a data station that provides facilities to other data stations. Examples are file server, print server, and mail server.

Small Computer System Interface (SCSI). An input and output bus that provides a standard interface for the attachment of various direct access storage devices (DASD) and tape drives to the RS/6000.

shell. The shell is the primary user interface for the UNIX operating system. It serves as command language interpreter, programming language, and allows foreground and background processing. There

are three different implementations of the shell concept: Bourne, C and Korn.

Small Computer Systems Interface Adapter (SCSI Adapter). An adapter that supports the attachment of various direct-access storage devices (DASD) and tape drives to the RS/6000.

SMIT. The System Management Interface Toolkit is a set of menu driven utilities for AIX that provides functions such as transaction login, shell script creation, automatic updates of object database, and so forth.

SNMP. Simple Network Management Protocol. (1) An IP network management protocol that is used to monitor attached networks and routers. (2) A TCP/IP-based protocol for exchanging network management information and outlining the structure for communications among network devices.

socket. (1) An abstraction used by Berkeley UNIX that allows an application to access TCP/IP protocol functions. (2) An IP address and port number pairing. (3) In TCP/IP, the Internet address of the host computer on which the application runs, and the port number it uses. A TCP/IP application is identified by its socket.

standby node or machine. A device that waits for a failure of a primary node in order to assume the identity of the primary node. The standby machine then runs the primary's workload until the primary is back in service.

subnet. Shortened form of subnetwork.

subnet mask. A bit template that identifies to the TCP/IP protocol code the bits of the host address that are to be used for routing for specific subnetworks.

subnetwork. Any group of nodes that have a set of common characteristics, such as the same network ID.

SUP. Software Update Protocol.

Sysctl. Secure System Command Execution Tool. An authenticated client/server system for running commands remotely and in parallel.

System Administrator. The user who is responsible for setting up, modifying, and maintaining the SP system.

subsystem. A software component that is not usually associated with a user command. It is usually a daemon process. A subsystem will perform work or provide services on behalf of a user request or operating system request.

syslog. A BSD logging system used to collect and manage other subsystem's logging data.

system partition. A group of nonoverlapping nodes on a switch chip boundary that act as a logical SP system.

T

tar. Tape ARchive, is a standard UNIX data archive utility for storing data on tape media.

Tcl. Tool Command Language.

TclX. Tool Command Language Extended.

TCP. Acronym for Transmission Control Protocol, a stream communication protocol that includes error recovery and flow control.

TCP/IP. Acronym for Transmission Control Protocol/Internet Protocol, a suite of protocols designed to allow communication between networks regardless of the technologies implemented in each network. TCP provides a reliable host-to-host protocol between hosts in packet-switched communications networks and in interconnected systems of such networks. It assumes that the underlying protocol is the Internet Protocol.

Telnet. Terminal Emulation Protocol, a TCP/IP application protocol that allows interactive access to foreign hosts.

Tk. Tcl-based Tool Kit for X Windows.

TMPCP. Tape Management Program Control Point.

token-ring. (1) Network technology that controls media access by passing a token (special packet or frame) between media-attached machines. (2) A network with a ring topology that passes tokens from one attaching device (node) to another. (3) The IBM Token-Ring LAN connection allows the RS/6000 system unit to participate in a LAN adhering to the IEEE 802.5 Token-Passing Ring standard or the ECMA standard 89 for Token-Ring, baseband LANs.

transaction. An exchange between the user and the system. Each activity the system performs for the user is considered a transaction.

transceiver (transmitter-receiver). A physical device that connects a host interface to a local area network, such as Ethernet. Ethernet transceivers contain electronics that apply signals to the cable and sense collisions.

transfer. To send data from one place and to receive the data at another place. Synonymous with move.

transmission. * The sending of data from one place for reception elsewhere.

TURBOWAYS 100 ATM Adapter. An IBM high-performance, high-function intelligent adapter that provides dedicated 100 Mbps ATM (asynchronous transfer mode) connection for high-performance servers and workstations.

U

UDP. User Datagram Protocol.

User Datagram Protocol (UDP). (1) In TCP/IP, a packet-level protocol built directly on the Internet Protocol layer. UDP is used for application-to-application programs between TCP/IP host systems. (2) A transport protocol in the Internet suite of protocols that provides unreliable, connectionless datagram service. (3) The Internet Protocol that enables an application programmer on one machine or process to send a datagram to an application program on another machine or process.

UNIX operating system. An operating system developed by Bell Laboratories that features multiprogramming in a multiuser environment. The UNIX operating system was originally developed for use on minicomputers, but has been adapted for mainframes and microcomputers. **Note:** The AIX operating system is IBM's implementation of the UNIX operating system.

user. Anyone who requires the services of a computing system.

user ID. A nonnegative integer, contained in an object of type *uid_t*, that is used to uniquely identify a system user.

V

Virtual Shared Disk, IBM. The function that allows application programs executing at different nodes of a system partition to access a raw logical volume as if it were local at each of the nodes. In actuality, the logical volume is local at only one of the nodes (the server node).

W

workstation. * (1) A configuration of input/output equipment at which an operator works. * (2) A terminal or microcomputer, usually one that is connected to a mainframe or to a network, at which a user can perform applications.

X

X Window System. A graphical user interface product.

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