IBM RISC System/6000
Scalable POWERparallel Systems
Diagnosis and Messages Guide

Document Number GC23-3899-01

Note!

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

First Edition (August 1995)

This edition applies to IBM Parallel System Support Programs for AIX Version 2 Release 1, which runs on IBM RISC System/6000 Scalable POWERparallel Systems, and to all subsequent releases and modifications until otherwise indicated in new editions or Technical Newsletters.

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Publicly Available Software

This product includes software that is publicly available:

Amd Berkeley Software Distribution automount daemon

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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 the front of this book.)

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 RISC System/6000 Scalable POWERparallel Systems: System Planning* book helps you plan for the SP system. It tells you how to prepare for software installation and provides considerations for integrating it into your existing computing network.
- The *IBM RISC System/6000 Scalable POWERparallel Systems: Installation 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 PSSP Version 2 Release 1 from PSSP Version 1 Release 2
  - Reconfiguring the system
  - Performing system maintenance
- The *IBM RISC System/6000 Scalable POWERparallel Systems: Command and Technical Reference* provides detailed syntax and parameter information for all commands you can use to install, customize, and maintain the SP system.

Documentation Note

The information in this book supports the use of IBM Parallel System Support Programs for AIX Version 2 Release 1, which runs on AIX 4.1.3. If you are running IBM AIX Parallel System Support Programs, Version 1 Release 2, which runs on AIX 3.2.5, in a system partition, you may also need to refer to the documentation that supports that product level.

Who Should Use This Book

This book is for system administrators responsible for setting up and maintaining the SP system. It assumes the 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

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(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:

- Chapter 1, "Diagnosing SP Problems" on page 5 contains information to help you diagnose hardware and software problems you may encounter while installing or operating the SP system.
- Chapter 23, "SP Messages" on page 109 lists error and warning 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**>.

Related Publications

SP Hardware Publications

- *IBM RISC System/6000 Scalable POWERparallel Systems: Site Planning*, GC23-3905
- *IBM RISC System/6000 Scalable POWERparallel Systems: Maintenance Information, Volume 1, Installation and CE Operations*, GC23-3903
- *IBM RISC System/6000 Scalable POWERparallel Systems: Maintenance Information, Volume 2, Maintenance Analysis Procedures and Parts Catalog*, GC23-3904
- *IBM RISC System/6000 Scalable POWERparallel Systems: Library Guide*, GC23-3868
- *IBM RISC System/6000 Scalable POWERparallel Systems: Installation Aid Licensed Program Specification*, GC23-3838

SP Software Publications

- *IBM RISC System/6000 Scalable POWERparallel Systems: System Planning*, GC23-3902
- *IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide*, GC23-3897
- *IBM RISC System/6000 Scalable POWERparallel Systems: Installation Guide*, GC23-3898
- *IBM RISC System/6000 Scalable POWERparallel Systems: Command and Technical Reference*, GC23-3900
- *IBM RISC System/6000 Scalable POWERparallel Systems: IBM Parallel System Support Programs for AIX Licensed Program Specification*, GC23-3901

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

Recoverable Virtual Shared Disk Publications

- *IBM Recoverable Virtual Shared Disk: User's Guide and Reference*, GC23-3849
- *IBM Recoverable Virtual Shared Disk: Licensed Program Specification*, GC23-3848

LoadLeveler Publications

- *IBM LoadLeveler: Administration Guide*, SH26-7220
- *IBM LoadLeveler: User's Guide*, SH26-7226
- *IBM LoadLeveler: Licensed Program Specification*, GH23-0040

Parallel Environment for AIX Publications

- *IBM Parallel Environment for AIX: General Information*, GC23-3906
- *IBM Parallel Environment for AIX: Hitchhiker's Guide*, GC23-3895
- *IBM Parallel Environment for AIX: Installation, Administration, and Diagnosis*, GC23-3892
- *IBM Parallel Environment for AIX: Operation and Use*, GC23-3891
- *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 GBOF-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*, available from your IBM representative

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

Other IBM Publications

AIX and RISC System/6000 Publications

- *IBM AIX for RISC System/6000 System Overview*, GC23-2406
- *IBM Getting Started: Using IBM RISC System/6000*, GC23-2377
- *IBM Getting Started: Managing RISC System/6000*, GC23-2378
- *IBM General Concepts and Procedures for RISC System/6000*, GC23-2202
- *IBM AIX Communication Concepts and Procedures*, GBOF-1524
- *IBM AIX Version 3.2 for RISC System/6000 Files Reference*, GC23-2200
- *IBM AIX Version 4.1 Files Reference*, SC23-2512

- *IBM AIX Version 3.2 System Management Guide*, SC23-2457
- *IBM AIX Version 3.2 System Management Guide: Communications and Networks*, GC23-2487
- *IBM AIX Version 4.1 System Management Guide: Communications and Networks*, SC23-2526
- *IBM AIX Version 3.2 Installation Guide*, SC23-2341
- *IBM AIX Version 4.1 Installation Guide*, SC23-2550
- *IBM AIX for RISC System/6000 Commands Reference*, GBOF-1802
- *IBM AIX Version 4.1 Commands Reference*, SBOF-1851
- *IBM AIX Versions 3.2 and 4.1 Performance Tuning Guide*, SC23-2365
- *IBM RISC System/6000 Problem Solving Guide*, SC23-2204
- *IBM AIX Version 4.1 Problem Solving Guide and Reference*, SC23-2606
- *IBM AIX Version 4.1 Messages Guide and Reference*, SC23-2641
- *IBM AIX Version 4.1 Network Installation Management Guide and Reference*, SC23-2627
- *IBM AIX Version 4.1 System Management Guide: Operating System and Devices*, SC23-2525
- *IBM AIX Version 4.1 General Programming Concepts: Writing and Debugging Programs*, SC23-2533
- *IBM AIX Version 4.1 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

Service

- *Common Diagnostic and Service Guide*, SA23-2632
- *RISC System/6000 Diagnostic Programs: Service Guide Version 1.2*, SA23-2632
- *RISC System/6000 Problem Solving Guide*, SC23-2204
- *POWERstation and POWERserver Common Diagnostics and Service Guide*, SA23-2687
- *7012 Operator Guide*, SA23-2623.
- *7012 POWERstation and POWERserver: Installation and Service Guide*, SA23-2624
- *7013 Operator Guide*, SA23-2621.
- *7013 POWERstation and POWERserver: Installation and Service Guide*, SA23-2622
- *Electrical Safety for IBM Service Representatives*, S229-8124
- *Service Information Binder*, SX33-6060

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

Adapters

- *FDDI Introduction and Planning Guide*, GA27-3892
- *FDDI User's Guide and Programming Reference*, SC28-2823
- *Block Multiplexer Channel Adapter User's Guide and Service Information*, SC23-2427
- *Planning for Fiber Optic Channel Links*, GA23-0367
- *Token-Ring Network Introduction and Planning Guide*, GA27-3677
- *RISC/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 SCSI Model 010 Expansion Unit: Installation and Service Guide*, SY33-0165
- *9334 SCSI Model 500 Expansion Unit: 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
- *9333-011 Operator Guide*, GA33-3208
- *9333-011 Installation and Service Guide*, SY33-0161
- *9333-011 Hardware Technical Information*, SA33-3209
- *9333-501 Operator Guide*, GA33-3234
- *9333-501 Installation and Service Guide*, SY33-0168
- *9333-501 Hardware Technical Information*, SA33-3235
- *IBM SCSI Tape Drive 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.
- Hwang, K., Briggs, F.A., *Computer Architecture and Parallel Processing*, McGraw-Hill, 1984.
- Perrot, R.H., *Parallel Programming*, Addison-Wesley, 1987.
- Flynn, M.J., *Very High-Speed Computing Systems*, Proc. IEEE, Vol. 29, 1966.
- Geist, A., Beguelin, A., Dongarra, J., Jiang, W., Manchek, R., Sunderam, V., *PVM 3 User's Guide and Reference Manual*, Oak Ridge National Laboratory, 1993.
- Gropp, W., Lusk, E., Skjellum, A., *Using MPI*, The MIT Press, 1994.

Tcl

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

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

Amd /usr/lpp/ssp/man/man8/amd.8

/usr/lpp/ssp/man/man8/amq.8

NTP /usr/lpp/ssp/man/man8/xntpd.8

/usr/lpp/ssp/man/man8/xntpdc.8

Perl /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

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**.

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Chapter 1. Diagnosing SP Problems

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 Chapter 23, “SP Messages” on page 109.
- 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 17 to analyze the symptoms and identify the source of the problem.

Getting Help From IBM

If you require help from IBM in resolving a 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 85 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 IBM RISC System/6000 Scalable POWERparallel Systems: Command and Technical Reference*.

Chapter 2. Error Logging

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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* for an overview

Error Logging 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 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 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: :1h1.AIX Error Log

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

The BSD syslog facility information appears:

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

How Error Log Events Are Classified

The following table shows 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 regular RISC System/6000, a battery is installed to maintain NVRAM. On a 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

Viewing Error Log Information in Parallel

It may be helpful in diagnosis of 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 tbx 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 tbx 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 tbx adapter and switch information in parallel:

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

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

Error Notification

You can be notified of an SP error when it occurs by using the AIX Error Notification Facility. 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 should have notification objects defined by the administrator. Many of these messages will not occur often, so these notification objects should be defined even for large SP systems.

1. **PPS AIX Error 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.

IBM General Concepts and Procedures for RISC System/6000 (GC23-2202) explains how to use the AIX Error Notification Facility. The *IBM RISC System/6000 Problem Solving Guide* (SC23-2204) explains the use of the AIX Error Log.

The following examples 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.

1. Mail the error report to **root@controlworkstation** when a tbx adapter fails on-line 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 network or 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 tbx 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 tbx 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
HPS adapter failed On-Line diagnostics

Probable Causes
Switch clock signal missing
HPS adapter failure

User Causes
Switch cable disconnected

Recommended Actions
Run adapter diagnostics

Failure Causes
HPS 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
```

2. Error Notification when any Error Type of PEND occurs.
   - **Steps 1 and 2** are the same as defined in the tbx 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.
3. Error Notification when any Error on the boot device of **hdisk0** occurs.
   - **Step 1 and 2** are the same as defined in the tbx 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.

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

   - **Steps 1 and 2** are the same as defined in the tbx 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" on page 45.)	**/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
Amd messages	**/var/adm/SPlogs/amd/amd.log**	Control workstation, nodes
Description of problems that arise while switch is initializing	**/var/adm/SPlogs/css/out.top**	Primary node
Initialization messages from the High Performance Switch support code	**/var/adm/SPlogs/css/rc.switch.log**	Nodes
Standard AIX error log entries including high-performance switch	**/var/adm/ras/errlog**	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
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**	Nodes
System Management configuration messages	**/var/adm/SPlogs/sysman/***node***.config.log**	Nodes

Table 2 (Page 2 of 2). SP Log Files		
Type of Message	**Log File**	**Location**
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

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.

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	Refer to Chapter 4, “Diagnosing Supervisor Communication Problems” on page 19
You get error messages when you start the switch or applications that use the switch fail or hang	High Performance Switch Failure	Refer to Chapter 8, “Diagnosing High Performance Switch Problems” on page 35
Applications using the Resource Manager cannot get access to parallel nodes or the Resource Manager fails	Resource Manager problems	Refer to Chapter 11, “Diagnosing Resource Manager Problems” on page 49
The **spmon**, **hmmon**, or **hmcmds** commands fail, you cannot start the System Monitor GUI, or you are having trouble running it.	System Monitor problem	Refer to Chapter 10, “Diagnosing System Monitor Problems” on page 45
Cannot monitor or operate hardware controls, cannot power frames, nodes, switch on or off	Hardware problem or System Monitor problem	Refer to Chapter 10, “Diagnosing System Monitor Problems” on page 45
3DigitDisplay indicator on the System Monitor displays three-digit codes	Hardware or software problem	Check Chapter 22, “SP-Specific LED Values” on page 95 to see if the code is discussed there. If not, refer to *IBM RISC System/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	Refer to Chapter 20, “Producing a System Dump” on page 85
You have an orange icon at any level of the System Monitor topology display	System connectivity problem	Refer to Chapter 9, “Diagnosing System Connectivity Problems” on page 43
Cannot **ping** on the external network, **rsh**, **telnet**, **rlogin** fail	System connectivity problem	Refer to Chapter 9, “Diagnosing System Connectivity Problems” on page 43
User access problems, cannot log in, password is invalid, cannot get to home directory	Software problem	Refer to Chapter 12, “Diagnosing User Access Problems” on page 59

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Symptoms	Condition	Action
You get a message in response to a SP command	Hardware or software problem	Look up the message in the message section of this chapter and follow the action suggested in the message explanation

Chapter 4. Diagnosing Supervisor Communication Problems

If the System Monitor panels are displaying blanks instead of expected information after installation, if the *controllerResponds* indicator on the System Monitor frame environment panel is red, or if the **/var/adm/SPlogs/SPdaemon.log** reports that the Frame Controller is not responding, check the RS-232 cable connection, if possible, and then check for the following symptoms to further diagnose the problem.

Symptom	Recovery
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
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

Insure 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.

Using the command line, enter:

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

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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.)

Chapter 5. Diagnosing SDR Problems

Nonzero Return Codes

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 SDR message

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

is issued with a return code of 80 from any SDR routine that cannot connect to the SDR server. Some programs, like Resource Manager, report the return code from an SDR routine, but not the message. Use the return code to find the appropriate message in Chapter 23, “SP Messages” on page 109.

Cannot Connect to Server

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

1. On the control workstation, type **hostname**. Record the result.
2. Try to **ping** the control workstation using the hostname returned in step 1. Do this from the node on which the SDR command failed. If the **ping** fails, contact your system administrator to investigate a network problem. If the **ping** succeeds, record the dotted decimal address returned from the command.
3. Check the first record in the file **/etc/SDR_dest_info** on the node on which the SDR command failed. If the file does not exist, the SP software was not correctly installed on the node, or the file was removed.

   The first record in the file should contain:

   ```
   primary: address_of_control_workstation
   ```

   where *address_of_control_workstation* is the dotted decimal address obtained in step 2. If these values are not the same, contact your system administrator. Either the network is installed incorrectly, the network has been changed since installation, or the **SDR_dest_info** file has been altered. You can either reboot or run **/etc/rc.sp** to recreate the **/etc/SDR_dest_info** file.
4. If the above three steps do not indicate a problem, check the environment variable, `SP_NAME` on the node on which the SDR command is failing. If this variable exists and its value is not the hostname of the control workstation, unset the variable and try the SDR command again.
5. On the control workstation, check for the existence of the SDR server process **sdrd** with the command:

   ```
   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.

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c. Check the SDR server binary with

```
ls -l /usr/lpp/ssp/bin/sdrd
```

Make sure the file exists and has permissions set so that it is executable.

d. Issue /**usr**/**lpp**/**ssp**/**bin**/**sdrd b** 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:respawn:/usr/lpp/ssp/bin/sdrd
```

Class Corrupted or Non-existent

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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide*). Then, follow the steps in “SDR Shadow Files” in the The System Data Repository appendix in the *IBM IBM RISC System/6000 Scalable POWERparallel Systems: 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**.

Problems Establishing a User Principal's Identity

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

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 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.

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.

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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 an update to occur, without waiting for the normal **cron** process.

Forcing 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).

Problems Establishing a Service Principal's Identity

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.

Comparing 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 autheication 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 a 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 a SP authentication server, customizing a 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 a SP node, follow the procedures below.

Re-creating Server Key Files

You can use authentication administration commands to re-create an erroneous or missing server key file. Each system with 9076 SP2 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 RISC System/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 and They are kept in the /**tftpboot** directory on the control workstation, with filenames of the form *hostname***-new-srvtab**, where *hostname* is the short form of the hostname for each node.

When the control workstation is a 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, the following procedures should be followed 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.

Replacing an Authentication Server's 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
```

Replacing a Client Workstation's 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
```

Replacing a SP Compute Node's File

The most straightforward way to replace a node's key file is to customize the node, using the **spbootins** command or SMIT. However, if you prefer, you can instead use procedures similar to the preceding example. If the control workstation is a SP authentication server, the **root** user, logged into the SP node whose server key file needs to be replaced, can use the procedure described above fpr 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).

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
```

Problems Using Authenticated Services

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. If you are using the System Monitor command-line interface, for example, you might see error messages such as the following, if **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.
```

You have no tickets, expired or unexpired, or your **KRBTKFILE** environment variable specifies a nonexistent file.

```
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.
```

You have tickets that have expired in the ticket cache file specified by your KRBTKFILE environment variable or defaulted.

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**).

Problems with the Authentication Server Daemons

Other more or less common errors may involve 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 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 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
#
```

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 endless 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 23 and the Kerberbos commands in *IBM IBM RISC System/6000 Scalable POWERparallel Systems: 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.short_hostname_as_returned_by_the_hostname_command@domain
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 High Performance Switch Problems

If your system shows signs of a high-performance switch failure, try to restart the switch with the **Estart** command. If this command does not work as expected, locate the symptom and perform the actions described in the following table.

Symptom	Recovery
Not all nodes initialize properly Message: `Initialization successful for N nodes` (but *N* is less than expected)	Action 4. Verify Secondary Nodes Action 5. Review Switch Diagnostic Information
Estart command times out Message: `Switch initialization 180 second time limit exceeded`	Action 5. Review Switch Diagnostic Information
If you do not get the initialization message, it indicates the primary node is unreachable Message: `Switch initialization started on nodename` indicates primary node is operational.	Action 3. Verify Primary Node
System cannot find **Estart** command Message: `Estart: not found`	Action 1. Verify Software Installation
System cannot find **/etc/SP/expected.top** file Message: `/etc/SP/expected.top: not found`	Action 1. Verify Software Installation Action 2. Verify Configuration Definition
Message: `Switch initialization failed on primary_hostname`	Action 3. Verify Primary Node
The number of nodes initialized is correct but attempts to send messages through the switch (**ping**) fail immediately	Action 3. Verify Primary Node Action 5. Review Switch Diagnostic Information
SDR access failures	Action 1. Verify Software Installation Action 6. Verify the System Data Repository (SDR)

Action 1. Verify Software Installation

The verification test checks HPS IP protocol, uCSSCI protocol, and CSS udp protocol. For every node connected to the switch, the test verifies both IP and uCSSCI protocols if connected to high performance switch-2.

The SP System Support Programs and the High Performance Switch support code must be installed as described in the *Memo to Users* that accompanied the install tapes. Also refer to the *IBM IBM RISC System/6000 Scalable POWERparallel Systems: Installation Guide*.

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 Communication Subsystem option

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PRESS Enter.

Using the command line, enter:

```
/usr/lpp/ssp/bin/CSS_test
```

Specify the –**q** flag to suppress messages. Specify –**l** to designate an alternate logfile. The default error log file is /**var**/**adm**/**SPlogs**/**CSS_test.log**

Each node should have access to a /**usr**/**lpp**/**ssp** directory.

/**etc**/**inittab** on each node should contain an entry for **rc.switch.**

Action 2. Verify Configuration Definition

The /**etc**/**SP**/**expected.top** file should reflect the hardware configuration (the number of switches) installed.

Verify that the switch topology file in the SDR or in /**etc**/**SP** on the primary node is the correct one for the configuration. The switch topology file can be read out of the SDR by issuing:

```
Etopology -read aix_filename
```

Action 3. Verify Primary Node

To determine which node is primary, on the control workstation, enter:

```
Eprimary
```

Make sure that the primary node is accessible from the control workstation, enter:

```
rsh primary_hostname date
```

If the primary node is not available (powered-down, rebooted, etc.), **Eprimary** should be run to designate a new primary (followed by an **Estart** to restart the HPS). **Eprimary** should never be run to designate a new primary if the current primary node is operational. However, **Eprimary** can always be used to query the primary node designation. On a primary node failure, the HPS and the "SwitchResponds" System Monitor display are in an inconsistent state until **Eprimary** and **Estart** are run.

Verify the switch's daemon is running (see Action 4. Verify Secondary Nodes).

The **"..** `daemon busy` **"** message can occur if the daemon is processing a switch fault at the time the **Estart** command was entered. In this case, retry the **Estart** command.

Action 4. Verify Secondary Nodes

All the nodes for which switch initialization was successful appear when you display the All Node Summary for the SwitchResponds variable (refer to the chapter on the System Monitor in the *IBM IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide*) or examine the /**tmp**/**node_list** on the primary node. For any node that should appear but does not, do the following:

- Log in to the secondary node in question and verify that the switch adapter is operational. Enter:

  ```
  errpt -a | more
  ```

- Check for switch-related errors. The message `HPS adapter failed POST diagnostics` indicates a Power On Self Test error. In any case, you may be

able to isolate the problem by running diagnostics online. Enter the following command as root:

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

To perform a wrap test for the adapter advanced diagnostics, enter:

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

Note: Diagnostics will not run a full test if the adapter is busy. You may have to kill the **fault_service_Worm_RTG**, **fs_monitor**, and **/etc/dig** daemons to run full tests.

- Verify that the fault service daemon is running on the node, enter:

  ```
  ps -ef | grep Worm
  ```

  Check for a message similar to this:

  ```
  root 14161 1 0 16:08:20 - 0:19 /usr/lpp/ssp/css/fault_service_Worm_RTG -r7 -s 100010 -p 0 -P IP -d SW
  ```

  If the daemon is not running, check that **/var/adm/SPlogs/css/fs_daemon_print.file** exists. If this file does not exist on the node, verify that **/etc/inittab** has the following entry to start the daemon:

  ```
  fsd:2:once:/usr/lpp/ssp/css/rc.switch
  ```

  If the daemon is running, it is possible that it started after the **Estart** command was entered. In this case, retrying the **Estart** should be successful. Following a node reboot, wait for all hostResponds indicators to turn green before issuing **Estart**.

- If you cannot resolve the problem with this information, preserve all files in **/var/adm/SPlogs/css** on the switch primary and secondary nodes in question and call IBM Support.

Action 5. Review Switch Diagnostic Information

Most switch diagnostic information is recorded on the primary node.

Review the Error Log: Login to the primary node and enter **errpt | more** to view the error log entries. This log contains information on errors that occur while the switch is up and operational. Following is a sample log:

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

Worm Indicates information extracted from switch and adapter hardware

css Indicates unusual status detected by the device driver.

Expect one of each of these messages for each **Estart** command:

```
Worm  HPS Fault - not isolated
```

If you see the following two messages, display the complete log entry:

```
HPS Fault - detected by adapter
HPS Fault - detected by switch
```

The following example was extracted from the **"**`HPS Fault - detected by switch chip`**"** message by entering **errpt -a** | **more** on the control workstation. It shows the details of a switch adapter chip error.

```
Switch Chip ID
       100010
Switch clock value at fault time
0000 02E0 AA93 8C56
Switch Diagnostic Registers
WHY[0] 80   WHY[1] 40
```

The last two digits of the Switch Chip ID 100010 indicates that switch adapter chip 0 in switch 1 detected the error first. A pattern of detections by the same switch or adapter chip probably indicates that it is faulty.

Figure 1 shows the switch error log entries. Some indicate a faulty HPS adapter or switch and require the attention of a IBM service representative. Others occur during normal systems activities such as rebooting or powering nodes on and off or running **Estart**.

```
LABEL               TYPE   CLASS RESOURCE_NAME  ERROR_DESCRIPTION
CSSCI_BAD_PACKET    PEND   S     CSSCI          Potential data loss condition
CSSCI_ROUTE_FAIL    PEND   S     CSSCI          RESOURCE UNAVAILABLE
CSSCI_INTERNAL_ERR  PEND   S     CSSCI          Data logged for information only.
HPS_FAULT6_ER       PERM   S     Worm           HPS Fault Sevice Deamon Terminated
HPS_DIAG_ERROR2_ER  PERM   H     css0           HPS adapter failed On-Line diagnostics
HPS_FAULT2_RE       TEMP   H     Worm           HPS Fault - detected by switch chip
HPS_FAULT11_ER      PERM   H     Worm           HPS Switch - Faulty switch component
HPS_DIAG_ERROR1_ER  PERM   H     css0           HPS adapter failed POST diagnostics
HPS_FAULT9_ER       PERM   H     Worm           HPS Adapter - Bus error
HPS_FAULT4_ER       PERM   H     Worm           HPS fault isolation failed
HPS_FAULT12_ER      PERM   H     Worm           HPS Switch - Cable Mis-wired
HPS_FAULT1_RE       TEMP   H     Worm           HPS Fault - not isolated
HPS_FAULT10_ER      PERM   H     css            HPS Adapter - Error detected by adapter
HPS_FAULT5_RE       TEMP   H     css            HPS Fault - Bad Packet Checksum
HPS_FAULT3_RE       TEMP   H     Worm           HPS Fault - detected by adapter
HPS_FAULT7_ER       PERM   H     css            HPS Adapter - Unexpected Interrupt
```

Figure 1. Sample CSS Error Log

Table 3 describes the possible causes for the errors shown in Figure 1.

Table 3 (Page 1 of 4). Possible Causes for HPS Failure

Error Description: HPS adapter failed POST diagnostics

Explanation: The HPS adapter failed Power-On-Self-Test Diagnostics.
Cause: Faulty HPS adapter or missing external clock source.
Action: Run adapter diagnostics.

Table 3 (Page 2 of 4). Possible Causes for HPS Failure

Error Description: HPS Fault — Bad Packet Checksum

Explanation: The HPS adapter detected corrupted data.
Cause: Faulty HPS adapter in network transmitted or received corrupted data.
Action: Run adapter diagnostics.

Error Description: HPS Fault Service Daemon Terminated

Explanation: Fault Service Daemon terminated.
Cause: Faulty HPS adapter, faulty microchannel slot or HPS lost external clock source.
Action: Run adapter diagnostics.

Error Description: HPS Fault — not isolated

Explanation: The switch was restarted at user request.
Cause: A node on the switch was reset.
Action: No action necessary.

Error Description: HPS Fault — detected by switch chip

Explanation: Switch chip was possible cause of a switch fault.
Cause: Faulty switch chip.
Action: No action necessary.

Error Description: HPS Fault — detected by adapter

Explanation: Switch fault occurred due to an adapter in switch network.
Cause: A node on the switch may have been powered off or rebooted or a faulty adapter on a node caused a fault.
Action: No action necessary.

Error Description: HPS fault isolation failed

Explanation: Switch recovery failed.
Cause: HPS adapter missing clock or data cable.
Action: Check and reconnect cables. Replace switch cable from a powered-off node with a wrap plug.

Error Description: HPS Adapter — Unexpected Interrupt

Explanation: Unexpected interrupt condition.
Cause: Faulty HPS adapter.
Action: Run adapter diagnostics.

Table 3 (Page 3 of 4). Possible Causes for HPS Failure

Error Description: Potential data loss condition

Explanation: Potential data loss condition
Cause: Transient data error in the switch net
Action: See **/var/adm/SPlogs/css/daemon.stdout** for more information.

Error Description: Resource unavailable

Explanation: Resource unavailable
Cause: A node on the switch was reset; HPS adapter or switch failure
Action: See **/var/adm/SPlogs/css/daemon.stdout** for more information.

Error Description: Data logged for information only

Explanation: Data logged for information only
Cause: Undetermined
Action: Restart job.

Error Description: HPS adapter failed online diagnostics

Explanation: The online HPS adapter diagnostics have failed. HPS adapter possibly faulty.
Cause: Faulty HPS adapter, missing external clock source or disconnected data cable.
Action: Run adapter diagnostics.

Error Description: HPS Switch — Faulty switch component

Explanation: Faulty HPS data cable or switch internal to the switch network. This element is not operational.
Cause: Faulty switch chip or data cable; disconnected cable or stuck pin.
Action: See **/var/sdm/SPlogs/css/daemon.stdout** and **/var/adm/SPlogs/css/out.top** for more information. Check and reconnect cables.

Error Description: HPS Adapter — Bus error

Explanation: Bus error or channel check condition.
Cause: Faulty HPS adapter, microchannel slot or missing external clock source.
Action: Run adapter diagnostics.

Table 3 (Page 4 of 4). Possible Causes for HPS Failure
Error Description: HPS Switch — cable miswired Explanation: An HPS switch data cable miswired was detected. Cause: Switch not cabled as specified in the switch topology files. Action: Check and reconnect cables. See **/var/adm/SPlogs/css/cable_miswire** for possible miswire.
Error Description: HPS Adapter - Error detected by adapter Explanation: Unexpected error detected by adapter. Cause: Faulty HPS adapter. Action: Run adapter diagnostics.

Review out.top Log: Problems that arise during switch initialization are recorded in **/var/adm/SPlogs/css/out.top** on the primary node. This file is a copy of the switch topology file with an error message next to any connection that has a problem. Following is a sample message from **/var/adm/SPlogs/css/out.top**:

```
S 15 3   tb0 0 0  E1-S00-BH-J18 to E1_N1 -3L: faulty link connected to output port
```

This message says that the cable from the primary node to the switch is broken or disconnected. The fifth field at the beginning of the line describes the expected connection and the seventh field identifies the switch jack cable connection. The switch topology file contains explanations of the notations.

The message,

```
link between devices is replaced by wrap plugs or cables
```

indicates that the node is not installed or that it has been taken out of the configuration for service.

The message,

```
service phase Worm dialog timeout
```

indicates that the worm reached the adapter but it could not communicate with the software on the node. Perform the procedure explained in Action 4. Verify Secondary Nodes.

For all other messages in this file, call IBM Support.

Action 6. Verify the System Data Repository (SDR)

1. 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 Data Repository

   PRESS Enter.

   Using the command line, enter:

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

2. Log in to the secondary node as **root**.
3. Enter:

   ```
   SDRGetObjects switch_responds
   ```

   If this returns the switch response bits, it indicates that the SDR is running. The switch response bits indicate which nodes are alive on the switch by returning a value of 1 if operating, 0 if not.

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 22, “SP-Specific LED Values” on page 95 to see if the code is discussed there. If the code is not discussed in this section, refer to *IBM RISC System/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 turning the power for the frames, nodes, or switch on and off), check **/var/adm/splogs/SPdaemon.log** for messages that specifically indicate a hardware problem. Search for messages containing the string "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 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 8. 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 9. Check Performance Action 2. Verify Authorization
The System Monitor GUI hardware displays are blank and indicate a problem	Action 5. Supervisor Communication Diagnosis Action 7. Verify Configuration Information
The Hardware Monitor daemon dies	Action 4. Check for a Core Dump Action 8. Check the Hardware Monitor Daemon (hardmon)
The logging daemon dies	Action 4. Check for a Core Dump
Performance problems on the control workstation	Action 9. 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 8. Check the Hardware Monitor Daemon (hardmon)
The System Monitor GUI indicates a hardware problem	Action 10. Check Logs Action 11. Start State Change Logging
A logging daemon user exit is not being called when it should	Action 11. Start State Change Logging

Refer to the chapter on using the System Monitor in the *IBM IBM RISC System/6000 Scalable POWERparallel Systems: 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

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 ACLs file, /**etc**/**hmacls**.

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

1. Check /**var**/**adm**/**SPlogs**/**spmon**/**hardmon** or /**var**/**adm**/**SPlogs**/**spmon**/**splogd** for a core dump. If these files exist, save them.
2. Proceed with “Action 12. Contact IBM Support” on page 48.

Action 5. Supervisor Communication Diagnosis

Perform the diagnosis procedure described in Chapter 4, “Diagnosing Supervisor Communication Problems” on page 19.

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. Verify Configuration Information

Use SMIT or the command line to run the System Monitor configuration verification test to check that the RS-232 lines are physically connected.

Using SMIT:

TYPE: **smit SP_verify**

SELECT: SSP System Monitor Configuration

PRESS: Enter

Using the command line:

Enter:

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

Action 8. 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 9. 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. Proceed with “Action 12. Contact IBM Support” on page 48.

Action 10. Check Logs

Check the **/var/adm/SPlogs/SPdaemon.log** for hardware error messages. If the file is not found there, it may be somewhere else at your site. Check the **/etc/syslog.conf** file to see where messages written to the daemon facililty are being directed. The same messages can also be found 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 11. 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.

Action 12. Contact IBM Support

1. If you can re-create the problem, document the procedure.
2. Call IBM support.

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 5. Check the host_responds and switch_responds Values for Specified Nodes. Action 4. Check Resource Manager Log Files
Error connecting to the Resource Manager Server	Action 6. Use the locate_jm Command to Indicate Whether the Resource Manager Daemons are Running and Their Node Locations Check and see if the backup server has taken over as the primary (“Action 4. Check Resource Manager Log Files” on page 52), if so wait 3 minutes and retry.
Cannot configure Resource Manager	Action 4. 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 4. 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 4. 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 6. Use the locate_jm Command to Indicate Whether the Resource Manager Daemons are Running and Their Node Locations Action 4. 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.

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.
```

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.

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
```

Please execute the **jm_verify** script when no other users are allocating nodes via the Resource Manager.

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 ..WARNING.

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

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.

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 IBM RISC System/6000 Scalable POWERparallel Systems: Command and Technical Reference* for usage and output examples.

Action 4. Check Resource Manager Log Files

Two log files are modified 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
- Resource Manager Job ID assigned to the client.
- Allocation request results. If result=0, 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 field is the **rc** field. The field contains the return code for each node in that request. Table 4 on page 54 lists the return codes. You can also look at **/usr/include/jm_client.h**.

Table 4. 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: `errpt -N ResourceManager` at the node in question. When you retrieve an error log template, look for the the "Diagnostic Explanation" and "Cause" sections near the bottom of the template. See Table 5 for the actions to take for the specified "Diagnostic Explanation" and "Cause" sections.

Table 5 (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 5 (Page 2 of 3). Resource Manager Error Log Templates.

ID	Error Type	Diagnostic Explanation and Action
JM_STARTSTOP_ST	UNKN	**Explanation** The Resource Manager Primary daemon has been started on this node. The Resource Manager Backup daemon has been started on this node. The Resource Manager Primary daemon received the **jm_stop** command. The Resource Manager Primary 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** command.
		Causes The Resource Manager was started or stopped on that node. was copied, then truncated.
		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 and 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.
		Cause 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
		Actions Check the **/var/adm/SPlogs/jm** logs to get more information about the error. Perform HPS diagnostics
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 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.

Table 5 (Page 3 of 3). Resource Manager Error Log Templates.

ID	Error Type	Diagnostic Explanation and Action
JM_DAEMONDIED_ER	PERM	**Explanation** The **jmd** experienced an unrecoverable error and is going down. The **RM** daemon cound 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** 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 5. 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 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.

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.

Action 6. Use the locate_jm Command to Indicate Whether the Resource Manager Daemons are Running and Their Node Locations

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.

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 noone is able to login, including root, follow the steps in Chapter 18, "Diagnosing Devices Including the Hard Disk" on page 77 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 Amd	Action 3: Issue amq To Verify That Amd 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: Issue amq To Verify That Amd Is Running

Issue **/etc/amd/amq** to verify that Amd is running on the system on which you are having problems accessing directories. It may be that Amd is not running or it's possible that Amd is running, but there is another problem.

Amd Is Not Running: If issuing **amq** results in:

```
amq: localhost: RPC: Program not registered
```

either the portmap daemon is not running, Amd is not running, or Amd is waiting for a response from an NFS server that is not responding.

To determine if the portmap daemon is running, issue:

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```
lssrc -s portmap
 Subsystem         Group            PID     Status
  portmap          portmap                  inoperative
```

To start the portmap daemon, issue:

```
startsrc -s portmap
0513-059 The portmap Subsystem has been started. Subsystem PID is 5787.
```

To determine if Amd is not running, issue:

```
ps -ef | grep amd
```

If this does not show the Amd process running, you should issue:

```
/etc/amd/amd_start
```

to start Amd.

Note: Amd should be started automatically during boot. Check to see if you have choosen Amd as `true` in the Site Environment options by issuing:

```
splstdata -e | grep AMD_CONFIG
```

To determine if Amd is running, but busy waiting for an NFS server, issue:

```
ps -ef | grep amd
```

```
root 14042     1   0 10:58:42   -  0:00 /etc/amd/amd -t 16.120 -x all -l
 /var/adm/SPlogs/amd/amd.log -p /u /etc/amd/amd-
```

If the result indicates that Amd is running, you may have an NFS server problem. Check the **/var/adm/SPlogs/amd/amd.log** for information relating to NFS servers not responding (such information appears at the bottom of the file). If a user's files are mounted with NFS and the server is not responding, then Amd 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 Amd (refer to “Stopping and Restarting Amd” on page 61 for more details).

To start Amd, issue:

```
/etc/amd/amd_start
```

Amd Is Running, But the User Cannot Access User Files: If the result of issuing **/etc/amd/amq** is similar to:

```
 /   root    "root"  r05n01:(pid13617)
 /u  toplvl  amd.u   /u
```

Amd is running. The problem is related to the amd maps.

Look at the **/etc/amd/amd-maps/amd.u** file to see if the user's map exists in this file. If the user name is **test** and the command **cd /u/test** results in:

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

you can look in the amd.u map to see if there is a stanza defined for this user by issuing:

```
grep -p test /etc/amd/amd-maps/amd.u
```

The result may indicate there is no entry for this user in the Amd 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 from the control workstation, issue:

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

Note: The amd maps are automatically distributed each hour by commands in the cron. You can look at these commands with **crontab -l**.

After you update the **amd.u** map with the version that contains the user information, reread the **amd.u** map. by issuing:

```
grep -p test /etc/amd/amd-maps/amd.u

test    host==luna;type:=link;fs:=/home/luna
                host!=luna;type:=nfs;rhost:=luna;rfs:=/home/luna
cd /u/test
```

Another possible problem with an amd map is that there is no route to the hostname specified in the rhost (remote host) field for the user. 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 access to the server. You can verify this by attemping to **ping** the server specified.

Another possible problem is that the server is exporting the file system to an inteface 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 filesystem on /**mnt**. Listing the contents would show the users files:

```
ls /mnt/test
.profile
```

Stopping and Restarting Amd

If you have determined that you need to stop and restart Amd, you should follow these steps:

1. Determine whether any users are already working in directories mounted by Amd. Issue:

   ```
   /etc/amd/amq

    /         root    "root"           r05n01:(pid13617)
    /u        toplvl  amd.u            /u
    /u/test   nfs     luna:/home/luna  /a/luna/home/luna/test
   ```

   If, as in the example, a user is working in a directory mounted by Amd, you can either request the user to logoff or request the user to cd out of their home directory.

2. Unmount the directories mounted by Amd. For example, to unmount the directory listed in the previous example, issue:

   ```
   amq -u /u/test
   amq

   /   root    "root"  r05n01:(pid13617)
   /u  toplvl  amd.u   /u
   ```

3. Stop Amd:

   kill -15 *process_id*

   where *process_id* is the process ID of the Amd process. You can determine the Amd process ID with:

   ps -ef | grep amd

   ```
   root 13617     1   0 11:35:49   -  0:00 /etc/amd/amd -t 16.120 -x all -l
    /var/adm/SPlogs/amd/amd.log -p /u /etc/amd/amd-
   ```

   Issuing the command:

   kill -15 13617

   will stop the process shown in the previous example. To make sure that the Amd process has stopped, reissue:

   ps -ef | grep amd

If the Amd process was not stopped by issuing the **kill** command, you should issue **unmount** /**u** to unmount the /**u** filesystem that Amd is managing and reissue the **kill** command.

Once you have determined that Amd is no longer running, you can start Amd by issuing the /**etc**/**amd**/**amd_start** command.

Chapter 13. NIM Diagnostics

This chapter discusses problems installing and configuring &sp. nodes with the Network Installation Management (NIM) service. See *IBM IBM RISC System/6000 Scalable POWERparallel Systems: Installation Guide* for information about the installation process and *IBM IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* for information about system management.

NIM Commands Used For Diagnosis

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. The more useful options are **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 IBM RISC System/6000 Scalable POWERparallel Systems: Command and Technical Reference* for the **nim** command and all its options.

Using the nim Command to Unconfigure the NIM Master

Issue the **nim -Fo** to 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 ten to 25 minutes 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 with **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. Check to see that the following information is present and follow the steps in Table 6.

Table 6. 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		

Export Problems

NIM exports the directories that are the 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 powered off before the successful completion of the node installation.
- A node was used for diagnostics or maintenance and now you would like to reinstall it.
- The node was switched from one **bootp_response** to another.

Each of these occurrances causes the client to be in a state which appears that the mode is 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 using by issuing **nim -o check psspspot**. This check should inform you if there is a problem.
2. If you are unable to detmine 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 from ten to 25 minutes to create SPOT.

Creation of the mksysb Resource Fails

If **setup_server** cannot create the **mksysb** resource, verify that the **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 list defined by the variable SIMAGES_OPTIONS. NIM uses this variable to create 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"
```

Missing installp images

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

1. Download them from the AIX 4.1.3 installation tape to the 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 ten to 25 minutes 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.
2. 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.
3. There should be at least 1MB of free space in **/tmp**. Expand **/usr** SPOT if it fills up.
4. 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 67 to correct the problem.

Chapter 14. Diagnosing Install Problems

If a node fails to install a mksysb image from its boot/install server, use these steps to determine the cause of the failure and to resolve the problem.

Step 1: Verify That the Boot/Install Server is Available

Do 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's node number.

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

   splstdata -b -l *server_node_number*

   Look at the RELIABLE HOSTNAME in the returned information.

You can skip step 3 if this is the control workstation.

3. Login to the boot/install server by using **telnet** or **rsh** and the reliable 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, “NIM Diagnostics” on page 63.
5. If the node is listed in this file, continue to “Step 2: Open a write tty to check for console messages.”

Step 2: Open a write tty to check for console messages

1. At the control workstation open a write tty to 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. An error message might tell you what the problem is. 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 messages is accompanied by an LED 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.

Step 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

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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 8
drwxr-xr-x   2 root     system       512 Mar 28 15:56 ssp

/spdata/sys1/install/images:
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. **setup_server** deletes images on the control workstation only if the site environment variable REMOVE_IMAGES is **true**.

Step 4: Review the NIM Configuration for this Node

Chapter 13, “NIM Diagnostics” on page 63 tells how to review 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 change has been made to the node that affects the boot process.
- There is a hardware problem

Booting 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 obtain a maintenance shell:

1. To change the SDR information for this node issue

   spbootins -r maintenance -l *node_number*

   then issue **setup_server** on the node's boot/install server.

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 tty 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 tty by issuing:

   <Ctrl-x>

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 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.

You can issue the following AIX commands:

```
netstat -nr
```

displays network statistics and routing. Issue

```
traceroute IP_address | hostname
```

to see the routing to a specific point.

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Chapter 17. Diagnosing Print Problems

If you experience problems running the Print Management utility, do the following:

Users Using Kerberos:

1. Ensure that the AIX subsystem is set up properly on the Print Host.
2. Check user's environment. The environmental variable, `PRINT_HOST` must be set in the user's environment containing the fully-qualified domain name of the Print Host.
3. Check the permissions on **/usr/lpp/ssp/bin/pmbec**:

   Open Mode -r-xr-xr-x
4. The print management system relies on the SP **rsh** command to provide user authentication. Refer to Chapter 7, “Diagnosing SP Remote Command Problems” on page 33 for more information.

Users Not Using Kerberos:

1. Ensure that the AIX subsystem is set up properly on the Print Host.
2. If running in secure mode, check that the user ID has been created on both the SP system and on the Print Host.
3. Check user's environment. The environmental variable, `PRINT_HOST` must be set in the user's environment containing the fully qualified domain name of the Print Host.
4. Check communications:

   Secure Mode An **.rhosts** file exists allowing hosts and users in the home directory of the print management userid (**prtid** by default) on the Print Hosts. Check the communication path from the host where the print job originated by executing:

   ```
   rsh <print-receptor host> -l <print mgmt id> print hello
   ```

   If you don't see the `hello`, the the communications path is blocked and the Print Management Utility will not function properly until it is cleared.

   Open Mode The **/etc/hosts.equiv** file on the Print Host allows **rsh** privileges from the SP system and users on the SP system. Check the communication path from the host where the print job originated by executing:

   ```
   rsh <print-receptor host> print hello
   ```

   If you don't see `hello`, the communications path is blocked and the Print Management Utility will not function properly until it is cleared.

   Check the permissions on /usr/lpp/ssp/bin/pmbec:

   Secure Mode -r-sr-sr-x

   Open Mode -r-xr-xr-x

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Chapter 18. Diagnosing Devices Including the Hard Disk

You can boot a node in disgnostic 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. Because the hard disk of the node is not used as the boot device, the hard disk can be formatted, certified, diagnosed, and microcode download can be performed.

Note: Formatting destroys the data on a disk.

To boot a node in diagnostics mode, use the **-r** option of 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 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 system partition.

The next time the node is network booted after the **spbootins** command has been executed, it will boot using the diagnostic image served over the network. The tty console will appear on the display and you will be able to enter commands as in the AIX **diag** command. See *AIX Version 4.1 Commands Reference* for a full description of the **diag** command.

Diagnosis mode NFS mounts /**usr** from the boot/install server to the diagnostic image running on the node. If device support is not present in the /**usr** file system of the server, it will not be available to the node for diagnostics.

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Chapter 19. Verifying System Management Installation

The SP Parallel System Support Programs includes verification tests you can run to check installation of the Parallel System Support Programs. 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, shown in Figure 2.

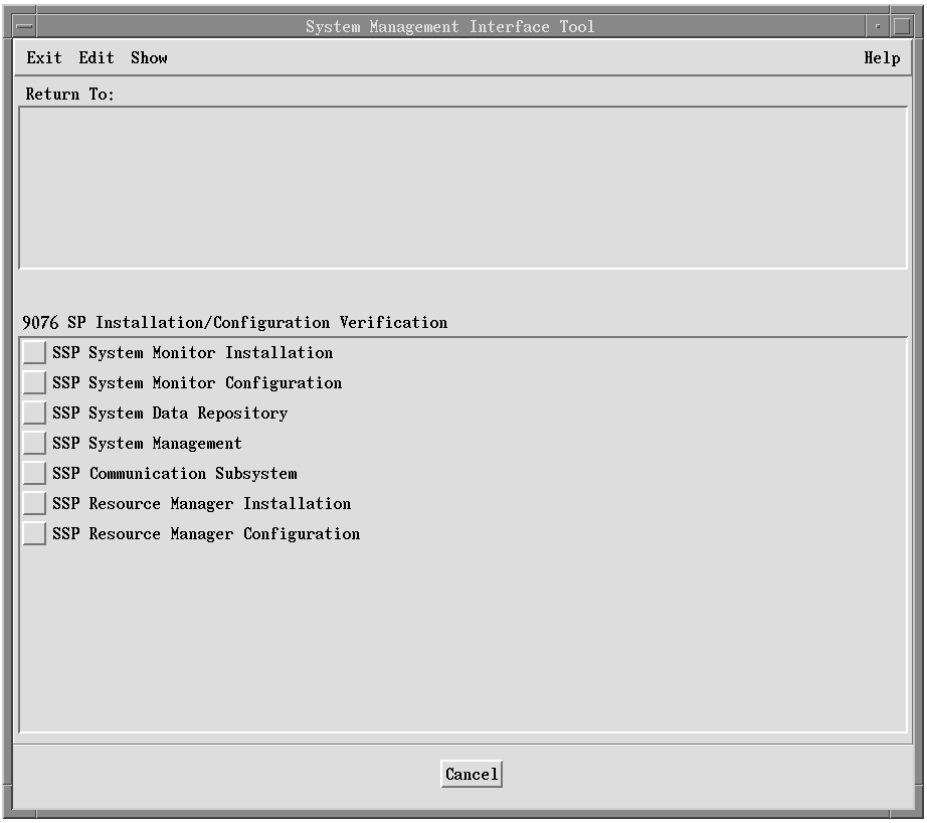

Figure 2. 9076 SP Installation/Configuration Verification SMIT Menu

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 warning 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

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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.

Figure 3 on page 81 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/amd does not exist
SYSMAN_test: 0037-028 /u should not be linked to /home when using Amd
SYSMAN_test: 0037-031 The amd daemon is not running, but the Amd 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: 0037-025 The link from /etc/passwd to sp_passwd is missing
SYSMAN_test: 0037-003 Directory /var/adm/acct/nite does not exist
SYSMAN_test: 0037-003 Directory /var/adm/acct/sum does not exist
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
```

Figure 3. System Management Verification SMIT Log

What System Management Verification Checks

This test is intended to verify that the installation of the Parallel System Support Programs 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 7. Objects Tested on Control Workstation Only

Object	**Verification**
CMI SMIT stanzas	defined in ODM
/etc/SP	created
install images	exported
/.klogin	entry for each node
nfs	active

Objects Tested on the Control Workstation and Boot/Install Servers

Table 8. 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
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 9. 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 10. Optional System Mgmt Objects Tested

Object	Verification
/etc/ntp.conf	Exists, content match 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
Amd maps	In user.admin if Amd used
Amd	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 11. Additional System Mgmt Tests

Service	Verification
ntp	execute a **xntpdc -l** command
Amd	execute a **amq -v** command
filec	execute a **supper where** command

Interpreting the Test Results

The tests that **SYSMAN_test** performs should never fail if the installation and configuration procedures are followed as directed. If errors are reported in the log files, you should first review the log files created by the various installation steps, use the System Monitor as recommended to review the hardware configuration information, and 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

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.

Warning

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 “Verifying the System Dump” on page 86.

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.

Dumping to the Primary Dump Device

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

Method 1: Set the key mode switch to the Service position and press the Reset button once.

This method works for all system configurations.

Method 2: 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.

This method can only be used on a natively-attached keyboard. It cannot be used on a **tty** connection.

Method 3: Login as **root** and enter:

```
sysdumpstart -p
```

This method works for all system configurations, but it assumes that the system is responding to commands.

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Dumping 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: 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.

This method can only be used on a natively-attached keyboard. It cannot be used on a **tty** connection.

Method 5: Login as **root** and enter:

```
sysdumpstart -s
```

This method works for all system configurations, but it assumes that the system is responding to commands.

Verifying 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 codes 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 codes 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 8)

3. Log in as **root**.
4. Verify the dump and the dump device by entering:

   ```
   sysdumpdev
   ```

   This should return:

   ```
   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: "`WARNING: dumpfile does not appear to match namelist`", either the dump did not take or the /**unix** file does not match the dump that was in the dump device.

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

     Do not continue with these steps and do not send the dump to IBM.
   - If no warning messages are 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.

     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 5.

Chapter 21. Diagnosing IBM Virtual Shared Disk Problems

This section tells how to diagnose and recover from some possible IBM Virtual Shared Disk problems.

Recovering From a Buddy Buffer Mismatch

When you define vsds 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 vsds, or migrate nodes to another software level.

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 vsds.

If there is a mismatch do one of the following sets of steps. You can postpone stopping your vsds by following "Fixing 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.

Fixing EMSGSIZE Error On A Running VSD System

To recover from the EMSGSIZE error without disrupting your vsds, do the following:

1. Issue the **vsdnode** command or use the SMIT panels to change the max_buddy_buffer_size.
2. Issue the **ctlvsd** **-M** command on any node whose max_buddy_buffer_size is greater than the smallest max_buddy_buffer_size in the system. This change may degrade your performance until you reconfigure the vsd.

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 vsds. It is, however, permanent.

1. Suspend all vsds
2. Stop all vsds
3. Unconfigure all vsds
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 SMIT panels to make the change. (Making this change has no effect on a running system.)
5. Configure the vsds
6. Move the vsds to the active state

See *IBM IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* for more information. See *IBM IBM RISC System/6000 Scalable*

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POWERparallel Systems: Command and Technical Reference for complete vsd command descriptions.

Using errpt For IBM Virtual Shared Disk Diagnosis

The following are the IBM 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*

The template ID numbers for IBM Virtual Shared Disk are:

Table 12. IBM Virtual Shared Disk errpt template IDs

name	ID	Reason
ERRID_VSD_KCI_ER	2973f76d	VSD failed to use communication interface
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 a VSD request
ERRID_VSD_GENERAL_UN	891f14c9	Unexpected VSD error occurred

Some of these errors are transitory in effect even though they are recorded in the Error Log as PERM. When a vsd 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 **RETURN CODE** gives more information about the error.
- The **Resource Name** will be either **kvsdd** or **vsdd**
- The **DETECTING MODULE** tells where the error occurred.

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:   kvsdd
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:   kvsdd
Description
REQUEST PROCESSING ERROR
Probable Causes
SUBSYSTEM
User Causes
VSD DRIVERS ARE NOT CONSISTANT
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 IBM 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:   kvsdd
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 VSD 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:   kvsdd
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 is inserted in the Error Log if internal communication sockets cannot be initialized.

```
LABEL:  VSD_KCI_ER
IDENTIFIER: 2973F76D
Date/Time:       Jun Mar 23 10:10:15
Sequence Number: 1361
Machine Id:      000204315700
Node Id:         k43n09
Class:           S
Type:            PERM
Resource Name:   kvsdd
Description
KCI REGISTRATION ERROR
Probable Causes
SOFTWARE DEVICE DRIVER
User Causes
INCORRECT DEVICE DRIVER STATE FOR COMMAND
Recommended Actions
CONFIGURE CSS NETWORK ADAPTER UP
PERFORM PROBLEM DETERMINATION PROCEDURES
Failure Causes
IBM VSD IS NOT COMPATIBLE WITH CSS DRIVER
Recommended Actions
USE COMPATIBLE IBM VSD AND CSS LEVELS
Detail Data
DETECTING MODULE
LPP=PSSP,Fn=vsdd.c,SID=SID,L#=231
RETURN CODE
function
```

Chapter 22. SP-Specific LED Values

LED values generated by the SP Parallel System Support Programs 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:

83u Information

Meaning: Indicates that the configuration method is running for the TB2 adapter card.

---

980 Information

Meaning: Indicates that the configuration method is running for the TB0 adapter card.

00u – 99u Information

Meaning: Appears during installation to indicate the percentage of the **mksysb** image that has been installed.

---

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, then see Chapter 15, “Diagnosing Boot Problems” on page 71.

---

u04 Information

Meaning: Expanding <node>.**install_info** file variables for use in **rc.boot**

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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, then see Chapter 15, “Diagnosing Boot Problems” on page 71.

---

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, then see Chapter 15, “Diagnosing Boot Problems” on page 71.

---

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, then see Chapter 15, “Diagnosing Boot Problems” on page 71.

---

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.

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” on page 69.

---

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.

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, then see Chapter 15, “Diagnosing Boot Problems” on page 71.

---

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, then see Chapter 15, “Diagnosing Boot Problems” on page 71. 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, then see Chapter 15, “Diagnosing Boot Problems” on page 71.

---

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

---

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 13 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
- How busy the network installation node is

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 13 as a debugging tool when a node is stuck on a specific LED value.

Table 13 (Page 1 of 4). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
0:00	124	BIST started a CRC check on the OCS area of NVRAM.

Table 13 (Page 2 of 4). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
	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		
	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.

Table 13 (Page 3 of 4). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
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	
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.

Table 13 (Page 4 of 4). Sample NIM Installation Trace

Time (min:sec)	LED Value	Description
	538	The configuration manager is invoking a configuration method.
34:30		
	Blank	

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Chapter 23. SP Messages

Not all SP messages are included in this listing.

- **Informational** messages provide status or usage information and do not require an explanation. These messages are not included here.
- **Error** and **warning** 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 111.

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.

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Chapter 24. 0016 Parallel System Support Programs Installation Error Messages

0016-003 Could not create directory *pathname*.

Explanation: The **netinst** home directory could not be created.

User Response: Ensure 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.

0016-0052 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.

0016-0053 The ext_srvtab command failed for hostname *hostname*.

Explanation: The **ext_srvtab** command could not create a *hostname*-**new-srvtab** file. Since the rcmd.*hostname* principal was just added to the database, this is probably a programming error in the PSSP authentication support.

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.

0016-0054 No server key file was found for hostname *hostname*.

Explanation: Because your Kerberos database is on another system, and not on the control workstation, the installation scripts are unable to create the server key files for the nodes automatically.

User Response: For each node in the SP system, just as for the control workstation, create a rcmd.*hostname* principal to your Kerberos database, using the short form of the initial_hostname attribute. Then, create a server key file (**srvtab**) for each node with the name **/tftpboot/***hostname***-new-srvtab**.

0016-0056 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 passsword 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.

0016-0057 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

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each of the nodes in /**tftpboot**/*nodename*-**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 *nodename*-**new-srvtab**. One file should exist for every node configured in the system. Check the filesystem, ensure that space exists in the filesystem, and rerun the **setup_server** script.

0016-0058 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.

0016-007 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**).

0016-0075 Error retrieving data from SDR; rc= *return_code***.**

Explanation: An error occurred while attempting to obtain information from the SDR. The program terminates because it cannot continue without the required information.

User Response: Check the return code from the SDR to determine the reason for the failure.

0016-008 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 hostnames. SDR Return Code *return code***.**

Explanation: The SDR did not, or could not, retrieve values for the Node object **reliable_hostnames** 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.

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 Amd, 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.

0016-055 Kerberos file *filename* 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.

0016-059 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_hostname* **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_hostname* **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 rerun **setup_authent** (on this 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 re-run **setup_server**.

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 re-run **setup_server**.

0016-072 Error detected processing the following nim command: *nim_command*. Return code = *return_code*.

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 re-run **setup_server**.

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 re-run setup_server.

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 terminates since it cannot continue with the required information.

User Response: Check the return code from the SDR to determine the reason for the failure.

0016-300 Cannot obtain afs cell name from *filename*.

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. Rerun the command.

0016-301 Cannot access *filename*.

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 *filename***.**

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 hostname 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 hostname 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 *filename***. 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 *hostname* **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 hostname 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 hostname of the primary server. A hostname 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,** *hostname***, to obtain the database.**

Explanation: The **rsh** command failed, attempting to send a request to the primary server to propogate 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.

Explanation: 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 sytem 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, *hostname*.

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 hostname 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 hostname.

Explanation: **setup_authent** issued the **host** command to obtain the full hostname for the local system. The **host** command could not perform name resolution.

User Response: Use the **hostname** command to set the correct system hostname. Then re-run setup_authent.

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.

016-350 **Usage:** *program_name [-afs|-krb] [-r realm] filename 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.

Chapter 25. 0017 Messages—Print Management Error 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 *filename* 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.

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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 **/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 *filename* **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 requiref 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 26. 0018 Messages—supper Error 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* to determine which system should serve the file collections. Issue **supper -s** *server name file*

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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.

Chapter 27. 0019 Messages—Login Control Error 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 *filename*.

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 *filename*.

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 *filename* 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 *filename*.

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 *filename* 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 *filename* 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, *filename*. 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 *filename*. 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 *filename*.

Explanation: There is a <filename>.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 28. 0020 Messages—Accounting Error Messages

0020-001 Cannot open file *filename*.

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 *filename*.

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** *filename*.

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 *filename*.

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** *filename*

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: *filename* **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 *filename* **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 *filename*

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 *filename***. Remove** *filename*/*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 *filename* and the *filename* 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 29. 0021 Messages—IBM Virtual Shared Disk Common Error 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 IBM 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 IBM 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 IBM Virtual Shared Disk in the SDR.

User Response: Use the **undefvsd** command to undefine the IBM 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 IBM Virtual Shared Disk with this name.

0021-015 The VSD name, *vsd_name*, cannot be the same as the logical volume name.

Explanation: The IBM Virtual Shared Disk and the LV names cannot be the same or the IBM 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 IBM 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.

0021-026 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.

0021-29 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 interger, problem is in **defvsd**epk.. If the minor_number is a valid interger, 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**.

Chapter 30. 0022 Messages—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 45.

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 re-enter.

0022-003 You have specified an invalid flag.

Explanation: A flag passed to the routine was invalid.

User Response: Correct the command and re-enter.

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 45.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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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 re-enter.

0022-012 Each attribute name may be specified only once.

Explanation: An attribute was specified more than once.

User Response: Correct the command and re-enter.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter 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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command or change all of the nodes served by this node to be served by another /**usr** server and then re-enter the command.

0022-030 You have specified an invalid attribute name.

Explanation: An attribute was specified which was invalid.

User Response: Correct the value and re-enter the command.

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: Re-enter the command, 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: Re-enter the command, 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: Re-enter the command, 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: Re-enter the command, 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: Re-enter the command, 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: Re-enter the command, 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: Re-enter the command, 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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

0022-044 You have specified an invalid netmask.

Explanation: The value passed was an invalid netmask.

User Response: Correct the value and re-enter the command.

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 re-enter the command.

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 re-enter the command.

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. Re-enter the command.

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 re-enter the command.

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 re-enter.

0022-051 Each flag may be specified only once.

Explanation: A flag was specified more than once.

User Response: Correct the value and re-enter the command.

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 re-enter the command.

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 re-enter the command.

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: Re-enter the command, 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: Re-enter the command, 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 re-enter the command.

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 re-enter the command.

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 re-enter the command or correct the value in the adapter object and then re-enter the command.

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 re-enter the command or change all of the nodes served by this node to be served by another boot/install server and then re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter.

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. Re-enter the command.

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 re-enter.

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 re-enter the command.

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: Re-enter the command, 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 re-enter.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command or change the /**usr** client to be a full AIX node and then re-enter the command.

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 re-enter the command, or change the /**usr** client to be a full AIX node and then re-enter the command.

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 re-enter.

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 re-enter.

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: Re-enter the command, 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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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: ????

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 re-enter the command.

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 re-enter the command.

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 re-enter.

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 re-enter the command 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 re-enter the command.

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 re-enter the command 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 re-enter the command.

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 re-enter the command or change the /**usr** client adapter for the node indicated in the message and re-enter the command.

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 re-enter.

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 re-enter the command.

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 re-enter the command.

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 re-enter the command.

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 re-enter.

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 re-enter.

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 re-enter the command.

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 re-enter.

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 re-enter the command.

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 re-enter.

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 re-enter.

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 re-enter the command.

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 re-enter.

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 re-run the command.

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 re-enter.

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 re-enter the command.

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 re-enter the command.

0022-114 You must provide Ethernet information for node 1 (using the SMIT dialog SP Ethernet Information or the spethernt command) before providing css0 adapter information.

Explanation: Before providing information about the css0 adapter, you must first provide Ethernet information for node 1.

User Response: Use the SP Ethernet Information SMIT dialog or the **spethernt** command, then re-enter the css0 adapter information.

0022-115 Node Objects still being created; try re-running this operation 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 re-run the command.

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. Re-issue the command 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. Re-issue the command 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 re-issue **verparvsd**.

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 **WARNING: 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 **WARNING: 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 re-issue your original command.

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 re-issue your original command.

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 re-issue your original command.

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 reissue the command.

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 an invalid pathname was specified then reissue the command 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 an invalid pathname was specified then reissue the command 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 an invalid pathname was specified then reissue the command 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 recustomize.

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 an invalid stanza value.

User Response: Recustomize the system partition and correct the invalid stanza.

0022-145 Customization file missing *stanza_type* **stanza.**

Explanation: A customization file in the supplied layout directory is missing the specified stanza.

User Response: Recustomize the system partition 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: Recustomize 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 restart it.

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: Re-customize one of the system partitions in the layout to ensure it has as its name the name of the default system partition. 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 Warning: 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: This is a warning message.

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, reissue the **spapply_config** command 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 retry the operation.

0022-152 Error stopping hb daemon for syspar *system_partition_name* **rc=** *return_code***.**

Explanation: The attempt to stop the **heartbeat** daemon for the specified system partition returned a non-zero return code.

User Response: If necessary, correct the error and retry the operation.

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 retry the operation.

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 retry the operation.

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 retry the operation.

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 retry.

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 Error creating hb daemon for *system_partition***; rc=** *return_code***.**

Explanation: The attempt to create 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 reapply the system partition configuration layout.

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 reapply the system partition configuration layout.

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 reapply the system partition configuration layout.

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 reapply the system partition configuration layout.

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 retry.

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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 Frame class from SDR; rc= *return_code***.**

Explanation: The return code from **SDRGetObjects Frame frame_type==switch** was neither 0 (have a switch) nor 4 (do not have a switch).

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 reissue the **Eprimary** command 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 reissue the **Eannotator** command 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 reissue the **Etopology** command 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 retry.

0022-174 Missing, incorrect, out of order, or wrong number of arguments.

Explanation: The command syntax has not been followed.

User Response: Reenter the command 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 retry.

0022-176 The boot_server for a PSSP-1.2 node must be selected from a PSSP-1.2 system partition and may not be the control workstation.

Explanation: A node in a PSSP-1.2 system partition must have a boot_server from within that same system partition. The control workstation may not be a boot server for a node in a PSSP-1.2 system paritition.

User Response: Select a node from within the PSSP-1.2 system partition to act as the boot_server for the PSSP-1.2 node(s) and reissue the command.

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.

0022-187 Missing, incorrect, out of order, or wrong number of arguments.

Explanation: The command syntax has not been followed.

User Response: Reenter the command with the correct syntax.

0022-190 Missing, incorrect, out of order, or wrong number of arguments.

Explanation: The command syntax has not been followed.

User Response: Reenter the command 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. Reenter the command 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: Reenter the command 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: Reenter the command with the correct syntax.

0022-194 Invalid data value for the option *data_option*.

Explanation: An invalid data value has been provided for a specified optional parameter.

User Response: Reenter the command 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: Reenter the command 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, reissue the command 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: Reenter the command with a system partition directory name.

0022-203 Warning: 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 Warning: 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? Reissue the command 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 host command is not working and retry the command.

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? Reissue the command 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: Reenter the command 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 of the SDR call, correct it, and reissue the command.

0022-216 Warning: 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 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: Reissue the command 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: Reissue the command 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: Recustomize the system partition with a correct value for the system partition name or IP-address. Then reapply the system partition configuration layout.

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: Recustomize the system partition with a valid system partition name or IP-address. Then reapply the system partition configuration layout.

0022-222 The file *filename* **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 reissue the command.

Chapter 31. 0023 Messages—Resource Manager Error 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 *filename*.

Explanation: Cannot open file.

User Response: Check path and permission of file.

0023-007 Error reading file *filename*.

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.

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0023-015 mktemp *filename* failed.

Explanation: Failed to get a tmp file name.

User Response: Refer to reference information for mktemp().

0023-016 Failed to open *filename*, errno *errno*.

Explanation: Cannot open file.

User Response: Look up error number.

0023-017 unlink *filename* 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.

0023-100 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 /**tmp**/**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 *filename*: 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 SDR message.

0023-131 SDRInitObjList error, rc = *SDR call return code*.

Explanation: SDR call failed.

User Response: Refer to SDR message.

0023-132 SDRLockClass for *sdr_class* failed, rc = *sdr call return code*.

Explanation: SDR call failed.

User Response: Refer to SDR message.

0023-133 SDRCreateObjects: object already exists.

Explanation: SDR call failed.

User Response: Refer to SDR message.

0023-134 SDRFindAttrInObjects failed, rc = *SDR call return code***.**

Explanation: SDR call failed.

User Response: Refer to SDR message.

0023-135 SDRChangeValues error, rc = *SDR call return code***.**

Explanation: SDR call failed.

User Response: Refer to 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 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 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 response to preceding message.

0023-140 Missing JM_LIST in *filename***.**

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.

0023-150 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 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 /**tmp**/**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 *filename* 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 *filename*.

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 occured 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.

Chapter 32. 0025 Messages—System Data Repository Error 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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* for information on setting authorizations.

0025-002 Lock could not be obtained. Another process has the class locked.

Explanation: User tried to access 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.

0025-026 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.

0025-060 AIX filename 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.

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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 filename 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 filename 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide*. Check the server on the control workstation to ensure it is running.

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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* for the correct file format.

0025-100 The system malloc routine failed.

Explanation: A call to allocate storage failed.

User Response: Follow local problem reporting procedures.

0025-102 An internal data format inconsistency was detected.

Explanation: Internal SDR checking revealed a corrupted class or other corrupted data.

User Response: Follow local procedures for getting IBM service.

0025-104 A system routine returned a bad return code.

Explanation: A system call unexpectedly failed.

User Response: Follow local procedures for getting IBM service.

0025-108 Could not obtain local hostname.

Explanation: The **gethostname**() routine failed.

User Response: Follow local problem reporting procedures.

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: Follow local problem reporting procedures.

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: Follow local procedures for getting IBM service.

0025-123 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: Unconfigure the hsd using the **ucfghsd** command for *hsd_name* on *host*, then reenter the **undefhsd** command.

0025-124 Deletion of hsd *hsd_name* **from the HSD_table in the SDR failed with a return code of** *return_code***. HSD** *hsd_name* **and minor number** *minor_number* **are not undefined.**

Explanation: The **SDRDeleteObjects** command failed 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: Look at the preceeding message printed from the **SDRDeleteObjects** command to determine what went wrong and how to fix it. When the SDR is fixed, reenter the **undefhsd** command.

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 reissue the command.

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 reissue the command.

0025-308 The code reached a path that was unexpected.

Explanation: The **sdr** command reached a code path that is in error.

User Response: Follow local problem reporting procedures.

Chapter 33. 0026 Messages—spmon Error 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 hostname 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 45.

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 45.

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 45.

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 45.

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 45.

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 45.

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 45.

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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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: Call someone.

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 Supervisor Communication Problems” on page 19.

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.

0026-600 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 prodecure) 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.

0026-637 You must specify a node ID from 1 to 16.

Explanation: The node ID specified must be one of the values from 1 thru 16.

User Response: Specify a valid node ID.

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 *filename*: *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 *filename*: *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 *filename* 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 *filename*: *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 *filename* 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.

0026-700 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 *hostname***:** *system_error_message* **(***error_number***).**

Explanation: A Hardware Monitor client command could not send a message to the Hardware Monitor daemon, at the specified hostname, 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 *hostname***.**

Explanation: A Hardware Monitor client command could not send a complete message to the Hardware Monitor daemon at the specified hostname.

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 hostname *hostname***:** *reason***.**

Explanation: A Hardware Monitor client command could not obtain the IP address of the specified hostname. This hostname 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 IBM RISC System/6000 Scalable POWERparallel Systems: Command and Technical Reference*.) Also verify that whatever hostname 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 *hostname*: *system error message* (*error_number*).

Explanation: A Hardware Monitor client command could not connect to the specified hostname, 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 *hostname*.

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 *hostname*. 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 *hostname*: *system error message* (*error_number*).

Explanation: A Hardware Monitor client command could not read a message from the Hardware Monitor daemon, at the specified hostname, 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 *hostname*.

Explanation: A Hardware Monitor client command could not read a complete message from the Hardware Monitor daemon at the specified hostname.

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 hostname: *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 *filename* *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 *filename*: *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 *filename* 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 *filename* 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 *filename* 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 *filename* 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 *filename* 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 *filename*.

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 *filename* **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 *filename* **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 *filename* 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 *filename* 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 *filename*.

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 *filename* **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**.

Chapter 34. 0027 Messages—User Administration Error 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

0027-115 A specified group is undefined: *group number or name*

Explanation: An undefined secondary group was specified for the user. 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 *filename* **in use.**

Explanation: The specified file has been locked by another program.

User Response: If that program has completed and a lock file (**filename.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. 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 *filename*.

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 IBM RISC System/6000 Scalable POWERparallel Systems: Administration Guide* for possible attributes as well as initial defaults. Modify the **spmkuser.defaults** file appropriately.

0027-155 File permissions not correctly set: *filename*

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 35. 0028 Messages—High Performance Switch Support Error 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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 High Performance Switch Problems” on page 35 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

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

0028-007 Switch initialization *limit* **second time limit exceeded.**

Explanation: Estart processing has exceeded allowable time limit.

User Response: See Chapter 8, “Diagnosing High Performance Switch Problems” on page 35.

0028-008 Cannot access system data repository.

User Response: See Chapter 1, “Diagnosing SP Problems” on page 5.

0028-009 You have specified an invalid number of arguments.

User Response: Check syntax and re-enter command.

0028-010 The node identifier for the primary 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.

0028-011 You have specified an invalid starting frame number.

Explanation: The starting frame number you specified is invalid.

User Response: Check that the frame number you are specifying is in your configuration.

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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.

User Response: Specify a number lower than the maximum nodes.

0028-015 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 Invalid switch partition.

Explanation: Invalid switch partition. (Switch partitions are not supported.)

User Response: Use SDRGetObjects Switch_partition to check that Switch_partition object exists.

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 High Performance Switch Problems” on page 35 for information on verifying primary nodes.

0028-050 Invalid combination of command arguments.

Explanation: You have specified an invalid combination of command arguments.

User Response: Check syntax and re-enter command.

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 re-enter the command.

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 re-enter the command.

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 reissue the command.

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 reissue the command.

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 System Data Respository (SDR).

User Response: None.

0028-100 Usage: *input_file output_file*

Explanation: User did not specify all required parameters.

User Response: Specify input filename and output filename and re-enter the command.

0028-101 *topology_filename* **does NOT exist.**

Explanation: The specified input file does not exist.

User Response: Verify the correct input file and re-enter the command.

0028-102 *filename* **is NOT readable, re-specify file name**

Explanation: Specified input file is not readable.

User Response: Respecify the input filename.

0028-103 Error on retrieving Switch Object from SDR.

Explanation: The command **SDRGetObjects Switch** failed.

User Response: Check if the SDR daemon, **/usr/lpp/ssp/bin/sdrd**, is running and if object class “Switch” is defined.

0028-104 Error on retrieving Node Object from SDR.

Explanation: The command **SRGetObjects Node** failed.

User Response: Check if the SDR daemon, **/usr/lpp/ssp/bin/sdrd**, is running and if 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 if the SDR daemon **/usr/lpp/ssp/bin/sdrd** is running and check if 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 if the SDR daemon **/usr/lpp/ssp/bin/sdrd** is running and check if 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 if the SDR daemon **/usr/lpp/ssp/bin/sdrd** is running and check if user has write permission on specified directory.

0028-108 Error return from Etopology.

Explanation: Etopology failed to run.

User Response: Check if the correct filename was specified.

0028-109 Output file was not saved, specify output filename and run again.

Explanation: The output filename did not get specified.

User Response: Specify the output filename.

Chapter 36. 0034 Messages—IBM Virtual Shared Disk Common Error Messages

0034-001 Cannot open or access file *filename***.**

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 IBM Virtual Shared Disk device cannot be opened or does not exist.

User Response: Make sure that the IBM 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 IBM 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 IBM 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.

0034-010 File *file_name* **not found.**

Explanation: The specified file does not exist.

User Response: Enter the IBM Virtual Shared Disk data in the SDR and this file will be created automatically the next time **cfgvsd** is called.

0034-011 Definition of VSD *vsd_name* **not found in file** *VSD_Table_pathname***.**

Explanation: The specified IBM Virtual Shared Disk could not be found in the VSD_Table file.

User Response: Check that the data in the IBM 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 IBM 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 IBM Virtual Shared Disk attributes are properly defined for the node *node_number*.

User Response: Run **vsdatalst -n** to display all IBM Virtual Shared Disk node attributes and check the attributes for node *node_number*.

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Use the **vsdnode** command to properly define the IBM 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 IBM Virtual Shared Disk and the underlying logical volume cannot have the same name. The /**dev** block and character files created by the IBM Virtual Shared Disk would overwrite the /**dev** block and character files created by the logical volume of the same name. Both the IBM Virtual Shared Disk and the logical volume would be rendered unusable.

User Response: Make up a new IBM Virtual Shared Disk name. The recommended convention is **vsd.***lv_name*. Retry the operation.

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 IBM 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 IBM 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 IBM Virtual Shared Disk is trying to create already exists for a non-IBM Virtual Shared Disk device.

User Response: Change the name of the IBM 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 IBM 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 !WARNING! Bad node number *node_number* **in file** *filename***. Ignored.**

Explanation: A bad node number was found in the **VSD_ipaddr** file.

User Response: No action required. This is a warning message.

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 !WARNING! 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. This is only a warning.

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 IBM Virtual Shared Disk information failed.

User Response: Try again, specifying an IBM 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 IBM Virtual Shared Disk.

User Response: The IBM Virtual Shared Disk was ignored. Check primary and backup servers you entered for this IBM 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 IBM Virtual Shared Disk device driver was not properly installed or was removed.

User Response: Install the IBM 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 IBM Virtual Shared Disk failed.

User Response: Check that the IBM 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 IBM Virtual Shared Disk in the active state.

User Response: Make sure you have defined your IBM Virtual Shared Disk; run **cfgvsd** and **startvsd**; and run **lsvsd -l** to see your IBM Virtual Shared Disk in the active state.

0034-116 Check *VSD_table_name* table in the SDR, cannot find the table.

Explanation: Some fields in the IBM Virtual Shared Disk table are incorrect.

User Response: Run SMIT to set IBM Virtual Shared Disk information.

0034-117 Check *VSD_table_name* table in the SDR, it is an empty table.

Explanation: Some fields in the IBM Virtual Shared Disk table are incorrect.

User Response: Run SMIT to set IBM Virtual Shared Disk information.

0034-118 Check *VSD_table_name* table in the SDR, undefined field is found.

Explanation: Some fields in the IBM Virtual Shared Disk table are incorrect.

User Response: Run SMIT to set IBM 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 IBM Virtual Shared Disk tables is incorrect.

User Response: Run SMIT to set IBM 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.

Chapter 37. 0035 Messages—cstartup Error 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 Frame Controller Interface (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 Frame Controller Interface (FCI).

0035-110 Node *node name* **appears to be running, yet it also appears to be powered off. It is assumed the node is in an intermediate state. Try the command again in a few minutes.**

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: Contract 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: Contract 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 System Data Repository (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 System Data Repository (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 System Data Repository (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 System Data Repository (SDR).

0035-150 Failure with Frame Controller Interface (FCI) routine. *FCI routine name* **failed with return code** *FCI routine return code***.**

Explanation: Failure with Frame Controller Interface (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 Frame Controller Interface (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 38. 0036 Messages—cshutdown Error 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 ;pk.-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 Frame Controller Interface (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 Frame Controller Interface (FCI).

0036-113 Node *node name* **appears to be running, yet it also appears to be powered off. It is assumed the node is in an intermediate state. Try the command again in a few minutes.**

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 Frame Controller Interface (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: Contract 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: Contract 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 System Data Repository (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 Frame Controller Interface (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. Retry the request 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 39. 0037 Messages—SYSMAN_test Error 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.

0037-007 Link missing from *boot/install client name* to net.image file

Explanation: This boot/install server node does not have a symbolic link for this client to the **net.image** file, 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.

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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.

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 *hostname*

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 *hostname*

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 to /home when using Amd

Explanation: Configuration of the optional Amd facility requires that any existing link from **/u** to **/home** 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 hostname*

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 hostname***.**

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 *hostname***.**

Explanation: This message is obsolete. No error was found.

User Response: None.

0037-048 File *filename* **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 filename*

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 thisHostname 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 thisHostname 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 filename*

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_filename***.**

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 IBM RISC System/6000 Scalable POWERparallel Systems: Maintenance Information Volume 2*, Service Locations and Procedures, for hardware installation problems. Refer to Chapter 8, "Diagnosing High Performance Switch Problems" on page 35 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 IBM RISC System/6000 Scalable POWERparallel Systems: Maintenance Information Volume 2*, Service Locations and Procedures, for hardware installation problems. Refer to Chapter 8, "Diagnosing High Performance Switch Problems" on page 35 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 40. 0038 Messages—Amd 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.

0038-003 Could not get Amd maps from the install server. Exiting...

Explanation: An error occurred while trying to remote copy the maps in **etc**/**amd**/**amd-maps** from the install server to this node. If there is an **amd.u** map configured for your site on the install server, it will be copied from the install server and replace the default **amd.u** map on this node.

User Response: Make sure that this node has permission to **rcp** to the boot/install server's /**etc**/**amd**/**amd-maps** directory. Make sure that the /**etc**/**amd**/**amd-maps** directory on this node has the appropriate write permissions to permit the copy.

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Chapter 41. 0041 Messages—Remote Command Error 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 *name* is not registered for Kerberos service.

Explanation: There is no **rcmd** principal defined for this host.

User Response: The system administrator must add the principal to the database.

0041-003 No tickets file found. You need to run kinit.

Explanation: The user does not have a ticket.

User Response: Run **kinit** to obtain a ticket.

0041-004 Kerberos rcmd failed: *error sentence from kerberos library call***.**

Explanation: The remote command failed for the reason listed.

User Response: Have the system administrator check the Kerberos environment.

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, gather information about the problem and follow local site procedures for reporting hardware and software problems.

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.

0041-008 Cannot retrieve hostname.

Explanation: **kshd** calls gethostname to retrieve the hostname 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 hostname.

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Chapter 42. 2500 Messages—HSD Error 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 an 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 45 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 45 for more information regarding system monitor problems.

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 an 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.

2500-100 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 an 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.

Chapter 43. 2501 Messages—Sysctl Error 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 filename. Create the file if necessary.

2501-154 Couldn't stat file *filename***:** *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 *filename***:** *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 *filename***, [***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 *filename***:** *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 filename***.**

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: *filename* **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 *filename***:** *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 *filename* **failed.**

Explanation: The initialization procedure for the shared library failed.

User Response: None.

2501-171 Wrong # args: should be *command filename [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: *filename*.

Explanation: The format of the specified shared library name is incorrect.

User Response: Correct the name format.

2501-173 Library: *filename* 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 *filename*: *error_type*.

Explanation: The attempt to load the specified shared library failed.

User Response: Check the error type.

2501-175 Error initializing shared library *filename*: *error_type*.

Explanation: The shared library initialization routine failed.

User Response: Check the error type.

2501-176 Initialization procedure for library *filename* failed.

Explanation: The shared library initialization routine failed.

User Response: None.

2501-177 Wrong # args: should be *command filename* [*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: *filename*.

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: *filename* 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: *filename*: *error_type*.

Explanation: The attempt to load the specified shared library failed.

User Response: Check the error type.

2501-181 Error initializing shared library *filename*: *error_type*.

Explanation: The shared library initialization routine failed.

User Response: Check the error type.

2501-182 Initialization procedure for library *filename* failed.

Explanation: The shared library initialization routine failed.

User Response: None

2501-183 Wrong # args: should be *command* [*filename* | 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 *filename* is not loaded.

Explanation: The specified shared library could not be unloaded because it is not loaded.

User Response: Check the filename; reissue if necessary.

2501-185 Could not unload library *filename*: *error_type*.

Explanation: The attempt to unload the specified shared library failed.

User Response: Check the error type.

2501-186 Could not unload library *filename*: *error_type*.

Explanation: The attempt to unload the specified shared library failed.

User Response: Check the error type.

2501-187 Could not unload library *filename*: *error_type*.

Explanation: The attempt to unload the specified shared library failed.

User Response: Check the error type.

Chapter 44. 2502 Messages—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: *filename*

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 *filename 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 *filename 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 *filename 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 *filename 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 *filename 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 *filename* **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: *filename*

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 *filename* 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 *filename*

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 *filename*

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.

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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, recreate that file 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 respawn it.

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 *filename 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: *filename 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: *filename 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: *filename 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: *filename 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. Retry the command 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 unable 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 *filename* **:** *_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. Reload the database 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 IBM RISC System/6000 Scalable POWERparallel Systems: 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: Retry the command 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: Retry the command, 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: Retry the failing command. 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: Retry the command, specifying a correct operation.

2503-501 Could not create temp database *filename 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. Retry the command 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 retry the failing request.

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: Reload the database using **kdb_util** load if you have a valid backup dump file. If not, you can use the **kadmin** and **ksrvutil** commands to re-create the missing principal.

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 23.

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 *filename* **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 *filename***.**

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 filename.

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 filename 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 *filename* **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 filename.**

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 *filename***.**

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.

Chapter 46. 2504 Messages—Kerberos Error Messages

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 23 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 47. 2505 Messages—Heartbeat Error 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 48. 2508 Messages—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 *filename*.

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 *filename* 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 *filename* **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 49. 2509 Messages—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 50. 5025 Messages—dsh and Parallel Commands Error 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 *filename***:** *system message*

Explanation: The working collective file could not be opened

User Response: Check the system message, fix the problem, and re-enter the command.

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 *filename*

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 *filename* **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 *filename***.**

Explanation: The host file specified could not be opened.

User Response: Check to see if the host filename 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: Re-enter the command 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: Re-enter the command with an appropriate flag.

5025-602 Parentheses unbalanced.

Explanation: Unequal number of left and right parentheses in expression.

User Response: Re-enter command 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 re-enter it.

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.

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 RISC System/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 RISC System/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.

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.

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 RISC System/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. An action that takes place in the operation of the system software.

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. RISC System/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 &vsds., thus reducing I/O bottlenecks and hot spots.

I

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.

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 &rs6k. 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.

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.

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.

remote host. *See foreign host*.

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 RISC System/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 RISC System/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 RISC System/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.

Uninteruptable Power Supply (UPS). A UPS can supply electricity to a device to keep it running when main power is interrupted or is unreliable.

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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