IBM

Program Directory for

IBM Tivoli NetView for z/OS

US English

Version 5 Release 4, Modification Level 00

Program Number 5697-ENV

FMID HENV54B

for Use with
z/OS

Document Date: October 2009

GI10-3194-07

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page 63.

Contents

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1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of the IBM® Tivoli® NetView® for z/OS® product. This publication refers to IBM Tivoli NetView for z/OS as Tivoli NetView for z/OS Version 5 Release 4.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 8 identifies the basic and optional program materials and documentation for Tivoli NetView for z/OS Version 5 Release 4.

- 3.0, "Program Support" on page 13 describes the Tivoli support available for Tivoli NetView for z/OS Version 5 Release 4.

- 4.0, "Program and Service Level Information" on page 15 lists the APARs (program level) and PTFs (service level) incorporated into Tivoli NetView for z/OS Version 5 Release 4.

- 5.0, "Installation Requirements and Considerations" on page 16 identifies the resources and considerations required for installing and using Tivoli NetView for z/OS Version 5 Release 4.

- 6.0, "Installation Instructions" on page 39 provides detailed installation instructions for Tivoli NetView for z/OS Version 5 Release 4. It also describes the procedures for activating the functions of Tivoli NetView for z/OS Version 5 Release 4, or refers to appropriate publications.

- Appendix A, "Program Level Information" on page 50 provides program level information for Tivoli NetView for z/OS Version 5 Release 4.

Before you install Tivoli NetView for z/OS Version 5 Release 4, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy form and this Program Directory; then keep them for future reference. Section 3.2, "Preventive Service Planning" on page 13 tells you how to find any updates to the information and procedures in this Program Directory.

Tivoli NetView for z/OS Version 5 Release 4 is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format that is provided with your order. All service and HOLDDATA for Tivoli NetView for z/OS Version 5 Release 4 are included on the CBPDO tape.

Do not use this Program Directory if you are installing Tivoli NetView for z/OS Version 5 Release 4 with a SystemPac® or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This program directory can point you to specific sections of it as required.

1.1 Tivoli NetView for z/OS Version 5 Release 4 Description

Whether you have a small installation or you are managing a large, distributed enterprise, the NetView for z/OS Version 5 Release 4 product provides efficient systems and network management capability on any platform. The new, changed, or deleted functions in this release are described in the following topics:

- Automation
- IP Management
- Sysplex and System Management
- Enterprise Integration
- Removed Function

1.1.1 Automation

- Event/Automation Service

  Added the confirmed alert adapter service and the confirmed message adapter service that confirm the delivery of EIF events to the target receiver.

- NetView MVS™ Command Revision

  You can use the NetView Command Revision function to examine, modify, or delete (cancel) MVS commands. You can make complex changes, requiring a transfer to the NetView address space, that include getting a response to a WTOR request, obtaining responses to other MVS commands, and reading files.

  The existing MVS command management function is still supported for migration purposes only, but is considered deprecated.

- SMF Type 30 record automation

  The MVS IEFACTRT SMF installation exit receives control from the system when a job or job step ends, either normally or abnormally. The NetView program provides a sample IEFACTRT exit (CNMSMF3E) that passes data across the Program-to-Program Interface (PPI) to a receiver, which issues a message containing the data that can be processed using NetView automation facilities. This enables quicker and more consistent responses for jobs that end abnormally.

1.1.2 IP Management

- Tivoli NetView for z/OS Enterprise Management Agent workspaces for DVIPA and discovery manager

  New and changed DVIPA workspaces have been provided to assist users with diagnosing DVIPA and distributed DVIPA problems. New and changed workspaces that display data collected by discovery manager are provided to assist users with diagnosing problems with TCP/IP stacks, IP interfaces, Telnet servers and ports, NetView applications, OSA and HiperSockets adapters.

- Discovery manager

The discovery manager collects sysplex, z/OS image, TCP/IP stack, IP interface, OSA, HiperSockets, NetView, and Telnet server data for display in the NetView management console and the NetView for z/OS Enterprise Management Agent. It also provides real-time 3270 TCP/IP stack, IP interface, Telnet server, OSA, HiperSockets, and NetView application commands.

- Distributed DVIPA statistics

Distributed DVIPA statistics are collected to help you evaluate how workload is being distributed to distributed DVIPA targets. This information is collected each time distributed DVIPA data collection is run and log the information into data sets for problem determination or historical trends. You can start logging the statistics at NetView initialization or by dynamically issuing the DVIPALOG command. The CNMSDVST sample command can be used to browse the data in the statistical data sets.

- Event-based updates for DVIPA

In addition to sampling, the NetView program can use events to update DVIPA information. This provides updates when changes occur. These events include z/OS Communications Server DVIPA SNMP traps, z/OS Communications Server VIPADYNAMIC TCPIP profile updates, and some z/OS Communications Server sysplex monitoring messages.

   Note: Events for VIPADYNAMIC TCP/IP profile updates require z/OS V1R11 Communications Server or later.

- IP packet trace and view

The packet trace interface no longer requires the AON component. The trace function provides management of IP packet traces. The view function provides capturing and viewing of IP packets.

- OSA packet trace and view

The packet trace interface has been updated to provide menu-driven OSA packet trace and view functions. The trace function provides management of OSA packet traces. The view function provides capturing and viewing of OSA packets.

- MultiSystem Manager IBM Tivoli Network Manager agent

The MultiSystem Manager agent for IBM Tivoli Network Manager extracts IP topology information from the IBM Tivoli Network Manager topology database about the network resources and relationships that are discovered by Tivoli Network Manager and loads the information into Resource Object Data Manager (RODM). This allows consolidated management of mainframe and enterprise IP resources from a central site.

- NetView management console supports communication on IPv6

The NetView management console supports communication on IPv6. For consistency with other IP functions provided by the NetView product, the term "IP sessions" has been changed to "IP connections" in NetView management console windows, messages, and helps.

- AON functions

The following functions moved from the AON component to the base NetView program:

   – ACTMON
   – Intrusion Detection

- IP tracing
- IPMAN
- IPSTAT
- NVSNMP

1.1.3 Sysplex and System Management

The increasing complexity of managing a sysplex environment has led to the need for management from a single point of control. The NetView program provides high availability sysplex management to ease complex system interactions and to maximize operational effectiveness. A master NetView program is automatically available for you to use in managing and displaying information about your sysplex. Automatic failover to another NetView program that can monitor the sysplex in the event of an outage is also provided. Monitoring of sysplex and system resources, including sysplexes, coupling facilities, z/OS images, TCP/IP stacks, IP interfaces, dynamic virtual IP addresses (DVIPAs), Telnet servers and ports, central processor complexes, logical partitions, Open Systems Adapter (OSA) and HiperSockets™ adapters, is available with this powerful management capability.

A master NetView program can provide management for systems outside of the sysplex as well as for another sysplex. This NetView program is known as an enterprise NetView program. Additional configuration is needed for the enterprise NetView program to manage systems that are outside of the sysplex. DVIPA information is restricted to sysplex management.

XCF services are used to automatically provide awareness of other NetView programs within the sysplex. This awareness allows the NetView program to failover to another NetView program in the event of an outage. By using XCF services, a master NetView program is implemented that collects and processes data from other NetView programs within the sysplex to provide a single point of control.

1.1.4 Enterprise Integration

- NetView for z/OS Enterprise Management Agent

  The NetView for z/OS Enterprise Management Agent (NetView agent) requires IBM Tivoli Management Services on z/OS V6.2.1 Interim Fix 3 or later. For installation information about this product, see the *Program Directory for IBM Tivoli Management Services on z/OS V6.2.1*, GI11-4105-03.

  You need approximately 1275 cylinders of DASD space for the generation of your runtime environment (RTE).

  With the NetView V5R4 product, the NetView agent becomes a separate function modification identifier (FMID), and has been removed from the base NetView program installation. When running the installation using SMP/E, the NetView agent is installed into the IBM Tivoli Monitoring target libraries. For installation information about the NetView agent, see the *Program Directory for IBM Tivoli NetView for z/OS Enterprise Management Agent*, GI11-9425-00.

- MultiSystem Manager IBM Tivoli Network Manager feature

The MultiSystem Manager IBM Tivoli Network Manager feature transfers information about resources that are identified and managed locally by the IBM Tivoli Network Manager product. After the information is stored in RODM, the NetView operator can view and manage these network resources from the NetView management console.

- Tivoli Common Reporting

Both real-time and historical data are available within the NetView agent workspaces. After historical data collection is configured, enabled, and data is collected and sent to the Tivoli Data Warehouse, you can create reports using the Tivoli Common Reporting tool. The NetView program provides historical reports that you can use with this tool.

1.1.5 Additional Enhancements

- CLOSE command and message automation

You can use the endcmd.close.leeway statement in the CNMSTYLE member to specify how long commands can run after a CLOSE IMMED, CLOSE STOP, or an MVS STOP (P) command is entered for the NetView program. This allows for the completion of complex cleanup activities in user-written code. During the leeway period, message automation remains active, but no new commands can be queued.

- NetView Web Services Gateway

NetView Web Services Gateway provides an open interface into the NetView program to issue commands and receive responses. SOAP is used for communications and HTTP or HTTPS as the transport mechanism.

- Global KEEP

The global KEEP function enhances and extends the existing capabilities of the NetView PIPE KEEP function, which users use to create, delete, modify, and access repositories (keeps) of NetView messages. The name space is expanded to allow 255-byte identifiers for the keeps. Additionally, specially designated keeps are accessible from any regular task.

- Security: password phrase support

Password phrases can be substituted for passwords. The password phrase can include phrases up to 100 characters in length, allowing for stronger sign-on protection.

1.1.6 Removed Functions

- The following NetView for z/OS Enterprise Management Agent workspaces have been deprecated:
  - DVIPA Distributor Targets
  - DVIPA Workload by Port
  - Filtered DVIPA Distributor Targets

- Tivoli NetView for z/OS Enterprise Management Agent reports using Tivoli Common Reporting

The DVIPA Workload report has been deprecated.

- NetView for z/OS Tivoli Enterprise Portal Agent

The following versions of the NetView for z/OS Tivoli Enterprise Portal Agent have been removed:

– NetView for z/OS Tivoli Enterprise Portal Agent Version 5.2.0

– NetView for z/OS Tivoli Enterprise Portal V6.1 Agent Version 5.2.5

– NetView for z/OS Tivoli Enterprise Portal Agent Version 5.3

- SNMP functions have been removed from the NetView Web application.

- SNMP functions that have been removed from the Web application can no longer be started from the NetView management console.

- Multisystem Manager LAN Network Manager support has been removed.

- Support for LPDA has been removed.

1.2 Tivoli NetView for z/OS Version 5 Release 4 FMIDs

Tivoli NetView for z/OS Version 5 Release 4 consists of the following FMIDs:

HENV54B
JENV54E

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for Tivoli NetView for z/OS Version 5 Release 4 is 5697-ENV and its feature number is 5802.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by Tivoli NetView for z/OS Version 5 Release 4. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 39 for more information about how to install the program.

You can find information about the physical tape for the basic machine-readable materials for Tivoli NetView for z/OS Version 5 Release 4 in the *CBPDO Memo To Users Extension*.

Notes:

1. The data set attributes in this table should be used in the JCL of jobs reading the data sets, but because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.

2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1. Program File Content Base Tape				
Name	ORG	RECFM	LRECL	BLK SIZE
SMPMCS	SEQ	FB	80	8800
HENV54B.F1	SEQ	FB	80	8800
HENV54B.F2	SEQ	U	0	6144
HENV54B.F3	SEQ	FB	80	8800
HENV54B.F4	SEQ	FB	23644	23648
HENV54B.F5	SEQ	VB	516	8256

Figure 2. Program File Content English Language Tape				
Name	O R G	R E C F M	L R E C L	BLK SIZE
JENV54E.F1	SEQ	FB	80	8800
JENV54E.F2	SEQ	FB	80	8880
JENV54E.F3	SEQ	FB	125	3125
JENV54E.F4	SEQ	U	0	6144

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Tivoli NetView for z/OS Version 5 Release 4.

2.3 Program Publications

The following sections identify the basic and optional publications for Tivoli NetView for z/OS Version 5 Release 4.

2.3.1 Basic Program Publications

Figure 3 identifies the basic unlicensed program publications for Tivoli NetView for z/OS Version 5 Release 4. One copy of each of these publications is included when you order the basic materials for Tivoli NetView for z/OS Version 5 Release 4. You can print additional copies when electronic publications are available using the softcopy URL that is provided in the Product Announcement letter or from the following URL:
http://www.ibm.com/shop/publications/order

Figure 3. Basic Material: Unlicensed Publications	
Publication Title	Form Number
Tivoli NetView for z/OS Version 5.4 Licensed Program Specifications	GC31-8848
Tivoli NetView for z/OS Version 5 Release 4 Installation: Getting Started	SC31-8872
Tivoli NetView for z/OS Version 5 Release 4 Installation: Migration Guide	SC31-8873
Tivoli NetView for z/OS Version 5 Release 4 Tuning Guide[1]	SC31-8869
(1) When available	

Figure 4 on page 10 identifies the basic unlicensed publications that are not available in hardcopy format, but are available through the Internet or other media for Tivoli NetView for z/OS Version 5 Release 4.

Figure 4 (Page 1 of 2). Basic Material: Other Unlicensed Publications		
Publication Title	Form Number	How Available
Tivoli NetView for z/OS Version 5 Release 4 Administration Reference	SC31-8854	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Application Programmer's Guide	SC31-8855	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Automation Guide	SC31-8853	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Command Reference Volume 1 (A - N)	SC31-8857	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Command Reference Volume 2 (O - Z)	SC31-8858	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Customization Guide	SC31-8859	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Data Model Reference	SC31-8864	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Installation: Configuring Additional Components	SC31-8874	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Installation: Configuring Graphical Components	SC31-8875	PDF on DVD row.
Tivoli NetView for z/OS Version 5 Release 4 Installation: Getting Started	SC31-8872	PDF on DVD row.
Tivoli NetView for z/OS Version 5 Release 4 Installation: Configuring the Tivoli NetView for z/OS Enterprise Management Agent	SC31-6969	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Installation: Migration Guide	SC31-8873	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 IP Management	SC27-2506	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Messages and Codes Volume 1(AAU-DSI)	SC31-6965	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Messages and Codes Volume 2(DUI-IHS)	SC31-6966	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Programming: Assembler	SC31-8860	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Programming: Pipes	SC31-8863	PDF on DVD

Figure 4 (Page 2 of 2). Basic Material: Other Unlicensed Publications		
Publication Title	**Form Number**	**How Available**
Tivoli NetView for z/OS Version 5 Release 4 Programming: PL/I and C	SC31-8861	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Programming: REXX and the NetView Command List Language	SC31-8862	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Resource Object Data Manager and GMFHS Programmer's Guide	SC31-8865	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Security Reference	SC31-8870	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 SNA Topology Manager Implementation Guide	SC31-8868	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Troubleshooting Guide	GC27-2507	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 Tuning Guide	SC31-8869	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 User's Guide: Automated Operations Network	GC31-8851	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 User's Guide: NetView	GC31-8849	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 User's Guide: NetView Management Console	GC31-8852	PDF on DVD
Tivoli NetView for z/OS Version 5 Release 4 User's Guide: Web Application	SC32-9381	PDF on DVD
IBM Tivoli NetView for z/OS Online Library DVD	SK2T-6175	DVD

Note that the media changed from CD to DVD.

2.3.2 Optional Program Publications

No optional publications are provided for Tivoli NetView for z/OS Version 5 Release 4.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Tivoli NetView for z/OS Version 5 Release 4.

2.5 Publications Useful During Installation

The publications listed in Figure 5 on page 12 can be useful during the installation of Tivoli NetView for z/OS Version 5 Release 4. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at the following URL:
http://www.ibm.com/shop/publications/order

Figure 5. Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS and OS/390® User's Guide	SA22-7773
IBM SMP/E for z/OS and OS/390 Commands	SA22-7771
IBM SMP/E for z/OS and OS/390 Reference	SA22-7772
IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis	GA22-7770
z/OS V1R9.0 UNIX® System Services Command Reference	SA22-7802
z/OS V1R9.0 UNIX System Services Messages and Codes	SA22-7807
z/OS Communications Server IP Configuration Guide	SC31-8775
z/OS Communications Server: IP Configuration Reference	SC31-8776
MVS Custom-Built Offering Planning and Installation	SC23-0352
IBM Tivoli Monitoring: Installation and Setup Guide	GC32-9407
IBM Tivoli Management Services on z/OS Configuring the Tivoli Enterprise Monitoring Server on z/OS	SC27-2313
IBM Tivoli OMEGAMON XE and Tivoli Management Services on z/OS Common Planning and Configuration Guide	SC23-9734

3.0 Program Support

This section describes the IBM support available for Tivoli NetView for z/OS Version 5 Release 4.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before you install Tivoli NetView for z/OS Version 5 Release 4, make sure that you have reviewed the current Preventive Service Planning (PSP) information. The PSP Buckets maintain current lists (that have been identified since the package was created) of any recommended or required service for the installation of this package. This service includes software PSP information (HENV54B and JENV54E) that contains HIPER and required PTFs against the base release.

Although software, hardware, and functional PSP Buckets might have overlap, review all that apply to this package to ensure that you identify all the known service that is required for your installation of this package.

If you obtained Tivoli NetView for z/OS Version 5 Release 4 as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Tivoli NetView for z/OS Version 5 Release 4 is older than two weeks old by the time you install the product materials, contact the IBM Support Center or use S/390® SoftwareXcel to obtain the latest PSP Bucket information. You can also obtain the latest PSP Bucket information at the following Web site:
https://techsupport.services.ibm.com/server/390.psp390

For program support, access the Software Support Web site at http://www.ibm.com/software/support/.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for Tivoli NetView for z/OS Version 5 Release 4 are shown as follows:

Figure 6. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
TIVNETV540	HENV54B	NetView Base
TIVNETV540	JENV54E	NetView US English

3.3 Statement of Support Procedures

Report any problems that you feel might be an error in the product materials to your IBM Support Center. You might be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 7 on page 14 identifies the component IDs (COMPID) for Tivoli NetView for z/OS Version 5 Release 4.

FMID	COMPID	Component Name	RETAIN® Release
Figure 7. Component IDs			
HENV54B	5697ENV00	NetView Base	54B
JENV54E	5697ENV00	NetView US English	54E

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Tivoli NetView for z/OS Version 5 Release 4. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

Appendix A, "Program Level Information" on page 50 lists the APAR fixes for previous releases of NetView that have been incorporated into Tivoli NetView for z/OS Version 5 Release 4.

4.2 Service Level Information

No PTFs against this release of Tivoli NetView for z/OS Version 5 Release 4 have been incorporated into the product tape.

It is highly recommended that you frequently check the Tivoli NetView for z/OS Version 5 Release 4 PSP Bucket for HIPER and SPECIAL Attention PTFs against all FMIDs that you must install.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Tivoli NetView for z/OS Version 5 Release 4. The following terminology is used:

- *Driving system*: the system used to install the program; where SMP/E executes.

  The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- *Target system*: the system on which the program is configured and run.

  The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product replaces the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.

- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system that is required to install Tivoli NetView for z/OS Version 5 Release 4.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 8. Driving System Software Requirements				
Program Number	**Product Name**	**Minimum VRM**	**Minimum Service Level will satisfy these APARs**	**Included in this product's shipment?**
Any **one** of the following:				
5694-A01	z/OS	V01.09.00	N/A	No
5655-G44	IBM SMP/E for z/OS	V03.04.00	N/A	No

Note: Installation might require migration to new z/OS releases to be service supported. See
http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html

5.2 Target System Requirements

This section describes the environment of the target system that is required to install and use Tivoli NetView for z/OS Version 5 Release 4.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites

Installation requisites identify products that are required by and *must* be present on the system or products that are not required by but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

Figure 9 (Page 1 of 2). Target System Mandatory Installation Requisites				
Program Number	**Product Name**	**Minimum VRM**	**Minimum Service Level will satisfy these APARs**	**Included in this product's shipment?**
5694-A01	z/OS	V1.9 or later	N/A	No

| | | | Minimum Service Level will satisfy these | Included in this product's |
Program Number	Product Name	Minimum VRM	APARs	shipment?
5698-A79	IBM Tivoli Management Services on z/OS (see note 1)	V6.2.1	6.2.1.0-TIV -ITM-IF0003	No

Figure 9 (Page 2 of 2). Target System Mandatory Installation Requisites

Note:

1. The Tivoli NetView for z/OS Enterprise Management Agent feature requires the IBM Tivoli Management Services on z/OS product. Tivoli Management Services is a mandatory requisite only if your order is for a Tivoli Management Services ServerPac. If Tivoli Management Services is packaged with your order, but you have no need for the product, you can choose to ignore this product installation or manually remove the product using SMP/E.

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IF REQs.

| | | | Minimum Svc Lvl to satisfy these | Function for which this is | Included in this product's |
Program Number	Product Name	Minimum VRM	APARs	a Req't	shipment?
5668-854	ACF/NCP	v4.3.1 or later	N/A	All functions related to the ACF/NCP program	No
5697-D10	Tivoli Management Framework for OS/390	v3.7.1	N/A	Graphical Enterprise work station components from OS/390 using Tivoli Software Install Service (SIS)	No
Any **one** of the following:					

Figure 10 (Page 1 of 2). Target System Conditional Installation Requisites

Program Number	Product Name	Minimum VRM	Minimum Svc Lvl to satisfy these APARs	Function for which this is a Req't	Included in this product's shipment?
5695-014	IBM Library for REXX on zSeries	v1.4 or later	HWJ9140, JWJ9142	Running compiled REXX CLISTs or programs (see notes 1 and 2)	No
	IBM Library for REXX on zSeries Alternate Library	v1.4 or later	HWJ9143, JWJ9144	Running compiled REXX CLISTs or programs (see notes 1 and 2)	Yes

Figure 10 (Page 2 of 2). Target System Conditional Installation Requisites

Notes:

1. If you compile AON REXX Command Lists, the IBM Compiler for SAA REXX/370 R4 (or later) is needed.

2. Several NetView components have REXX programs that were compiled with the ALTERNATE option. If you access the REXX library from the NetView product or from z/OS UNIX System Services, these REXX programs are run in compiled mode. Otherwise, the REXX alternate library is used and these REXX programs are run in the interpreted mode. Some of the NetView components that have compiled REXX programs are MultiSystem Manager, UNIX Command Server, and the TSO Command Server.

   The TSO server jobs themselves are either batch TSO jobs or started tasks which should be set up to access the REXX library so that the TSO server REXX program runs in compiled mode. Otherwise, the REXX alternate library is used and the server runs in interpreted mode.

   Note: Your z/OS environment must be modified so that the REXX data set you are using (either SEAGLPA or SEAGALT) is APF-authorized. Edit your APF member in SYS1.PARMLIB and add the REXX data set (SEAGLPA or SEAGALT) if it is not already there. Re-IPL the z/OS product if necessary. If your system is set up to use dynamic APF services, you can avoid re-IPLing the z/OS product by using the SETPROG command to dynamically update the APF list. Refer to the Initialization and Tuning Reference for your z/OS system for more information on authorizing data sets.

5.2.2.2 Operational Requisites

Operational requisites are products that are required by and *must* be present on the system or products that are not required by but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions. These products are specified as PREs or REQs.

Tivoli NetView for z/OS Version 5 Release 4 has no mandatory operational requisites.

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REQs.

Figure 11. Target System Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5698-A79	IBM Tivoli Management Services on z/OS V6.2.1 Interim Fix 3 or later	Tivoli NetView for z/OS Enterprise Management Agent feature (1)
Note: (1) For information on this feature, see the *IBM Tivoli NetView for z/OS Enterprise Management Agent Program Directory*		

5.2.2.3 Toleration/Coexistence Requisites

A toleration/coexistence requisite is defined as a product that must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

Tivoli NetView for z/OS Version 5 Release 4 has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

Tivoli NetView for z/OS Version 5 Release 4 has no negative requisites.

5.2.3 DASD Storage Requirements

Tivoli NetView for z/OS Version 5 Release 4 libraries can reside on all supported DASD types.

Figure 12 lists the total space required for each type of library.

Figure 12. Total DASD Space Required by Tivoli NetView for z/OS Version 5 Release 4	
Library Type	**Total Space Required in 3390 Trks**
Target	3900
Distribution	4000
HFS(1)	150
zFS(1)	250
Note(1):	You need either HFS or zFS.

Notes:

1. For non-RECFM U data sets, use system-determined block sizes for efficient DASD utilization. For RECFM U data sets, use a block size of 32760, which is most efficient from the performance and DASD utilization perspective.

2. The following abbreviations are used for data set types:

    U   Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.

    S   Shared data set, allocated by this product and used by this product and other products. To determine the correct storage that is needed for this data set, add the storage size specified in this table to the sizes in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size specified in this table.

    E   Existing shared data set, used by this product and other products. This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size specified in this table to the sizes in other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size specified in this table.

    If you currently have a previous release of this product installed in these libraries, the installation of this release deletes the old release and reclaims the space that was used by the old release and any service that had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

    For more information about the names and sizes of the required data sets, see 6.1.8, "Allocate SMP/E Target and Distribution Libraries" on page 43.

3. The following abbreviations are used for the file system path type:

    N   New path, created by this product
    X   Path created by this product, but might already exist from a previous release
    P   Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set can be changed.
- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the Member Type column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLST.
- These data sets are not required to be APF-authorized.

Figure 13 shows the storage requirements estimate for the SMPCSI data set for SMP/E. This estimate must be added to those of any other programs and services being installed to determine the total additional space requirements.

Figure 13. Storage Requirements for SMPCSI Data Sets for SMP/E for Tivoli NetView for z/OS Version 5 Release 4		
DASD	**Tracks Required for SMPCSI Data**	**Tracks Required for SMPCSI Index**
3390	1230	61

Figure 14. Storage Requirements for SMP/E Work Data Sets						
Library DDNAME	**TYPE**	**ORG**	**RECFM**	**LRECL**	**No. of 3390 Trks**	**No. of DIR Blks**
SMPWRK1	S	PDS	FB	80	10	250
SMPWRK2	S	PDS	FB	80	10	250
SMPWRK3	S	PDS	FB	80	10	250
SMPWRK4	S	PDS	FB	80	10	250
SMPWRK6	S	PDS	FB	80	25	250
SYSUT1	U	SEQ	--	--	3	-
SYSUT2	U	SEQ	--	--	2	-
SYSUT3	U	SEQ	--	--	2	-
SYSUT4	U	SEQ	--	--	2	-

The following table provides an estimate of the storage that is needed in the SMP/E data sets for Tivoli NetView for z/OS Version 5 Release 4. You must add the estimates to those of any other programs and service that you install to determine the total additional storage requirements.

Figure 15. Storage Requirements for SMP/E Work Data Sets

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SMPMTS	S	PDS	FB	80	1	1
SMPPTS	S	PDS	FB	80	24	1
SMPSCDS	S	PDS	FB	80	8	5
SMPSTS	S	PDS	FB	80	1	1

The following figures describe the target and distribution libraries and file system paths that are required to install Tivoli NetView for z/OS Version 5 Release 4. The storage requirements of Tivoli NetView for z/OS Version 5 Release 4 must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining which of the libraries can be merged into common data sets. Because some ALIAS names might not be unique, ensure that you do not introduce naming conflicts before you merge the libraries.

Figure 16 (Page 1 of 2). Storage Requirements for Tivoli NetView for z/OS Version 5 Release 4 Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
BNJPNL1	PNL	ANY	U	PO	FB	80	385	240
BNJPNL2	PNL	ANY	U	PO	FB	80	8	5
BNJSRC1	Source	ANY	U	PO	FB	80	12	3
CNMCLST	CLIST	ANY	U	PO	FB	80	850	60
CNMINST	SAMP	ANY	U	PO	FB	80	6	2
CNMLINK	LMOD	ANY	U	PO	U	0	860	215
CNMPNL1	PNL	ANY	U	PO	FB	80	670	175
CNMSAMP	SAMP	ANY	U	PO	FB	80	350	35
DSIPARM	SAMP	ANY	U	PO	FB	80	85	15
DSIPRF	SAMP	ANY	U	PO	FB	80	2	1

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
NVULIB	LMOD	ANY	U	PO	U	0	4	6
SCNMLNKN	LMOD	ANY	U	PO	U	0	2	1
SCNMLNK1	LMOD	ANY	U	PO	U	0	1	1
SCNMLPA1	LMOD	ANY	U	PO	U	0	2	2
SCNMMAC1	MACRO	ANY	U	PO	FB	80	145	15
SCNMPLIB	PNL	ANY	U	PO	FB	80	5	2
SCNMUXCL	EXEC	ANY	U	PO	VB	516	12	2
SDSIMSG1	MSG	ANY	U	PO	FB	80	5	1
SDSIOPEN	SAMP	ANY	U	PO	FB	80	3	1
SDUIMSG1	MSG	ANY	U	PO	FB	80	3	1
SEKGLANG	MSG	ANY	U	PO	FB	125	2	1
SFLBDAT1	TABLE	ANY	U	PO	VB	1028	6	1

Figure 16 (Page 2 of 2). Storage Requirements for Tivoli NetView for z/OS Version 5 Release 4 Target Libraries

DDNAME	T Y P E	Path Name
SCNMUX00	N	/usr/lpp/netview/v5r4/bin/IBM/
SCNMUX01	N	/usr/lpp/netview/v5r4/samples/IBM/
SCNMUX02	N	/usr/lpp/netview/v5r4/lib/IBM/
SCNMUX03	N	/usr/lpp/netview/v5r4/mibs/IBM/
SCNMUX07	N	/usr/lpp/netview/v5r4/samples/properties/IBM/
SCNMUX09	N	/usr/lpp/netview/v5r4/samples/at-tls/IBM
SCNMUX10	N	/usr/lpp/netview/v5r4/www/IBM
SCNMUX11	N	usr/lpp/netview/v5r4/www/img/IBM

Figure 17. Tivoli NetView for z/OS Version 5 Release 4 HFS or zFS Paths

Library DDNAME	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
ABNJPNL1	U	PO	FB	80	380	240
ABNJPNL2	U	PO	FB	80	10	5
ABNJSRC1	U	PO	FB	80	14	3
ACNMCLST	U	PO	FB	80	850	60
ACNMINST	U	PO	FB	80	6	2
ACNMLINK	U	PO	U	0	1110	710
ACNMMAC1	U	PO	FB	80	140	15
ACNMPNL1	U	PO	FB	80	675	175
ACNMSAMP	U	PO	FB	80	345	35
ACNMUXCL	U	PO	VB	516	225	8
ADSIMSG1	U	PO	FB	80	2	1
ADSIOPEN	U	PO	FB	80	2	1
ADSIPARM	U	PO	FB	80	100	15
ADSIPRF	U	PO	FB	80	2	1
ADUIMSG1	U	PO	FB	80	2	1
AEKGLANG	U	PO	FB	125	1	1
AFLBDAT1	U	PO	VB	1028	5	1
ANVULIB	U	PO	U	0	5	7

Figure 18. Storage Requirements for Tivoli NetView for z/OS Version 5 Release 4 Distribution Libraries

5.3 FMIDs Deleted

Installing Tivoli NetView for z/OS Version 5 Release 4 might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install Tivoli NetView for z/OS Version 5 Release 4 into separate SMP/E target and distribution zones.

Note: These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, see the SMP/E manuals for instructions.

5.4 Special Considerations

The following table identifies README file names and installation methods associated with the noted Tivoli NetView for z/OS Version 5 Release 4 components. Note that the media changed from CD to DVD.

Figure 19. README file names and installation methods for Tivoli NetView for z/OS Version 5 Release 4 Components.			
Component Name	**Web Page** (1)	**DVD** (2)	**Readme file**
NetView Web Application	x	x	znetview_webapp_readme_en.htm
NetView Common Event Infrastructure	x	x	nvcei_read.me
Viewer for Log XML files	x	x	logxmlviewer_readme.html
NetView management console topology console	x	x	egvread1.me
NetView management console topology server	x	x	egvread2.me
NetView Visual BLDVIEWS	x	x	VBVreadme.txt
MultiSystem Manager Agents	x	x	msmagnt.me
MultiSystem Manager IP Agents	x	x	msmip.me
MultiSystem Manager IBM Tivoli Network Manager Agent	x	x	msm_nm_ip_en.html
MultiSystem Manager TMR Agents	x	x	msmtmr.me
NetView 3270 Management Console	x	x	flbread1.me
(1) URL: http://www.ibm.com/software/tivoli/products/netview-zos/			
(2) The readme documentation on the Tivoli NetView for z/OS Version 5 Release 4 DVD is located in the readmes directory.			

The following NetView functions and features require the specified program levels or subsequent upward-compatible levels unless stated otherwise:

5.4.1 Automated Operations Network Component

- Dynamic Display Facility (DDF) requires either a 3x79 Terminal with Extended Attribute Support with a display capable of seven colors, a workstation that supports the NetView 3270 Management Console, or a workstation-based 327x terminal emulator program that provides Extended Attribute Support with a display capable of seven colors.

- The SNA Automation feature has these additional requirements for Switched Network Backup Automation:

  - IBM 586x modems (except Model 1) with 2 or 4 wire SNBU couplers, if desired, or
  - The 786x, 7855, or LPDA-2 command set capable modems

    Note: Only the 786x Models 45, 46, and 47 can automatically switch back from SNBU.

    Note: To use the SNBU automation, ACF/NCP Version 4 Release 3.1 (5684-854), or later is required. ACF/NCP Version 5 Release 4 (5668-738) or later is required for complete DMPX support of IBM 7861/8 Model 4x modems.

- TCP/IP for AIX® automation uses SNA communication between Tivoli NetView for AIX and IBM Tivoli NetView for z/OS, and requires hardware that supports:

  - AIX 5.2 or 5.3
  - Tivoli NetView for AIX 7.1.5 or later
  - AIX NetView Service Point 1.3.3 (5621-107)
  - IBM Communication Server for AIX 6.1 (5765-E51) or later

5.4.2 Common Event Infrastructure

- IBM WebSphere Application Server® V7.0.0.1 or the embedded version of IBM WebSphere Application Server V7.0.0.1 for the appropriate operating system.

5.4.3 DVIPA Support

Requires one of the following systems:

- z/OS V1R11 Communications Server or later

- z/OS V1R10 Communications Server, and SNMP agent (OSNMPD)

- z/OS V1R9 Communications Server, and SNMP agent (OSNMPD)

The z/OS V1R11 Communications Server or later is required to collect the following data:

- Distributed DVIPA connection routing

- VIPA routes

- VIPADYNAMIC TCPIP profile updates (used with DVIPA events)

5.4.4 Event/Automation Service

- Event/Automation Service requires Tivoli Enterprise Console® Version 3.8 or 3.9

- Using secure framework communication also requires Tivoli Management Framework for OS/390 3.7.1 or later

- For information on installing Event/Automation Service workstation component, refer to the readme file that is identified in Figure 19 on page 26.

5.4.5 Frame Relay (DTE) and Ethernet

Management of Frame Relay (DTE) and Ethernet requires ACF/NCP V6 (5688-231)

5.4.6 HiperSockets Support

- RODM

- z/OS V1R11 Communications Server or later

5.4.7 Incident Records

Opening incident records from the NetView program requires one of the following products:

- IBM Tivoli Information Management
    - IBM Tivoli Information Management for z/OS V7.1
    - Web Access for Information Management V1.2
    - IBM z/OS HTTP Server 5.2 or 5.3
- Peregrine ServiceCenter
    - ServiceCenter Server 6.0 Server
    - ServiceCenter Web Client or Windows® Client for Database Management
    - Optionally, ServiceCenter Web Client for additional management of incidents

5.4.8 MultiSystem Manager IP Agent

The MultiSystem Manager Internet Protocol (IP) agent requires the Event/Automation Service component of IBM Tivoli NetView for z/OS.

The MultiSystem Manager IP agent of Tivoli NetView for z/OS Version 5 Release 4 runs in many different environments. The requirements for each environment are as follows:

- **AIX Systems**

    When the MultiSystem Manager IP agent is installed on Tivoli NetView for AIX, the IP agent can communicate with IBM Tivoli NetView for z/OS using SNA or TCP/IP. If you are using TCP/IP to

communicate between the IP agent and IBM Tivoli NetView for z/OS, the following products are required:

 – AIX 5.2 or 5.3

 – Tivoli NetView for AIX 7.1.5 or later

If you are using SNA to communicate between the MultiSystem Manager IP agent and IBM Tivoli NetView for z/OS, the following products are required:

 – AIX NetView Service Point 1.3.3 (5621-107) or later

 – IBM Communication Server for AIX V6.1 (5765-E51) or later

- **Windows Systems**

The MultiSystem Manager IP network agent for Windows uses TCP/IP to communicate with IBM Tivoli NetView for z/OS. The MultiSystem Manager IP agent for Tivoli NetView for Windows requires the following products:

 – One of the following servers:

   - Windows Server 2003 Standard with R2 SP2

   - Windows Server 2003 Enterprise with R2 SP2

   - Windows Server 2003 Data Center with R2 SP2

   - Windows XP Professional with SP3

 – IBM Tivoli NetView for Windows 7.1.5 or later

- **Solaris Systems**

The MultiSystem Manager IP network agent for Solaris uses TCP/IP to communicate with IBM Tivoli NetView for z/OS. The agent can be installed on Tivoli NetView for Solaris or Hewlett Packard Network Node Manager.

 – The MultiSystem Manager IP agent for Tivoli NetView for Solaris requires the following:

   - Solaris 9 or 10

   - Tivoli NetView for Solaris V7.1.5 or later

 – The MultiSystem Manager IP agent for OpenView for Solaris requires the following:

   - Solaris 9 or 10

   - Hewlett Packard OpenView Node Manager for Solaris Version 5 Release 1 or later

- **Hewlett Packard Systems**

The MultiSystem Manager IP agent for HP-UX uses TCP/IP to communicate with IBM Tivoli NetView for z/OS. The MultiSystem Manager TCP/IP agent for HP OpenView running on HP-UX requires:

 – HP-UX Version 11iv2 or later

 – Hewlett-Packard OpenView Network Node Manager Version 5 Release 1 or later

- **Linux® Systems**

The MultiSystem Manager IP agent for Linux uses TCP/IP to communicate with IBM Tivoli NetView for z/OS. The agent requires hardware that supports the following:

– SUSE Linux Enterprise Server 9 (Intel®)

– SUSE Linux Enterprise Server 9 for zSeries

– SUSE Linux Enterprise Server 9 (AMD64/EM64T) (32-bit app, 64-bit kernel)

– Red Hat Enterprise Linux 4 AS (Intel)

– Red Hat Enterprise Linux 4 ES (Intel)

– Red Hat Enterprise Linux 4 (AMD64/EM64T) (32-bit app, 64-bit kernel)

– Red Hat Enterprise Linux 4 for zSeries with NetView Integrated TCP/IP Services Component (ITSC) 7.1.5 or later

5.4.9 MultiSystem Manager IBM Tivoli Network Manager Agent

The MultiSystem Manager IBM Tivoli Network Manager runs in many different environments. The requirements for each environment are as follows:

- **AIX Systems**

  When the MultiSystem Manager IBM Tivoli Network Manager agent is installed on AIX, the agent requires hardware that supports the following system:

  – AIX 5.3 or later

  – Tivoli Network Manager 3.8 or later

    - Netcool®/OMNIbus Gateway for SNMP 5.0 or later

- **Windows Systems**

  When the MultiSystem Manager IBM Tivoli Network Manager agent is installed on Windows, the agent requires hardware that supports the following systems:

  – Windows Server 2003 Standard with R2 SP2

  – Windows Server 2003 Enterprise with R2 SP2

  – Windows Server 2003 Data Center with R2 SP2

  – Windows Server 2008

  – Windows Server 2008 (AMD64/EM64T)

  – Windows XP Professional with SP3

  – Windows Vista Desktop

  – Tivoli Network Manager 3.8 or later

    - Netcool/OMNIbus Gateway for SNMP 5.0 or later

- **Solaris Systems**

When the MultiSystem Manager IBM Tivoli Network Manager agent is installed on Solaris, the agent requires hardware that supports the following system:

- – Solaris 9 or later
- – Tivoli Network Manager 3.8 or later
    - - Netcool/OMNIbus Gateway for SNMP 5.0 or later

- **Linux Systems**

When the MultiSystem Manager IBM Tivoli Network Manager agent is installed on Linux, the agent requires hardware that supports the following systems:

- – SuSE Linux Enterprise Server 9 (Intel)
- – SuSE Linux Enterprise Server 9 (AMD64/EM64T) (32-bit application/64-bit kernel)
- – SuSE Linux Enterprise Server 10 (Intel)
- – SuSE Linux Enterprise Server 10 (AMD64/EM64T) (32-bit application/64-bit kernel)
- – SuSE Linux Enterprise Server 11 (Intel)
- – SuSE Linux Enterprise Server 11 (AMD64/EM64T) (32-bit application/64-bit kernel)
- – Red Hat Enterprise Linux 4 AS (Intel)
- – Red Hat Enterprise Linux 4 ES (Intel)
- – Red Hat Enterprise Linux 4 (AMD64/EM64T) (32-bit application/64-bit kernel)
- – Red Hat Enterprise Linux 5 (Intel) (AMD64/EM64T)
- – Tivoli Network Manager 3.8 or later
    - - Netcool/OMNIbus Gateway for SNMP 5.0 or later

5.4.10 MultiSystem Manager TMR Agent

- IBM Tivoli Monitoring 5.1.2
- A compatible level between each of the following programs:
    - – Tivoli Management Framework 3.7.1 or 4.1.1
    - – Tivoli Enterprise Console 3.8 or 3.9
- Any of the following Operating Systems:
    - – AIX 5.2 or 5.3
    - – Windows Server 2003 Standard with R2SP2
    - – Windows Server 2003 Enterprise with R2 SP2
    - – Windows Server 2003 Data Center with R2 SP2
    - – Solaris 9 or later

– HP UX 11iv2 or later

– SUSE Linux Enterprise Server 9 (Intel)

– SUSE Linux Enterprise Server 9 (ADM64/EM64T)

5.4.11 OSA Discovery Support

- RODM for display

- OSA SNMP subagent (IOBSNMP)

- SNMP agent (OSNMPD)

5.4.12 OSA Packet Trace Formatting

z/OS V1R11 Communications Server or later

5.4.13 Passwords (Mixed Case) and Password Phrases

- z/OS V1.9 Security Server (RACF®) or later

5.4.14 Tivoli NetView Management Console, NetView 3270 Management Console

- Topology Server

    – Any Hardware that supports any of the following operating systems:

        - AIX 5.3 or later with the following software:

            - C Set++ for AIX Applications xlC.rte 3.6.6.0 or later

            - IBM class libraries ibmcxx.ioc.rte 3.6.6.0 or later and ibmcxx.rt 3.6.6.0 or later

            - Information Presentation Facility ipfx.rte.2.2.0.0 or later

                Note: The xlC.rte, ibmcxx.ioc.rte, ibmcxx.rte ipfx.rte and gskta.rte files are included on the Tivoli NetView for z/OS Version 5 Release 4 product CD.

        - Windows Server 2003 Standard with R2 SP2

        - Windows Server 2003 Enterprise with R2SP2

        - Windows Server 2003 Data Center with R2 SP2

        - Windows Server 2008

        - Windows Server 2008 (AMD64/EM64T)

        - SuSE Linux Enterprise Server 9 for zSeries

        - SuSE Linux Enterprise Server 10 for zSeries

        - SuSE Linux Enterprise Server 11 for zSeries

- Red Hat Enterprise Linux AS 4.0 for zSeries
- Red Hat Enterprise Linux 5.0 for zSeries
- Install footprint of 110 MB of additional fixed disk space

- Topology Console

  - Any Hardware that supports any of the following operating systems with TCP/IP installed:

    - Windows Server 2003 Standard with R2 SP2
    - Windows Server 2003 Enterprise with R2 SP2
    - Windows XP Professional with SP3
    - Windows Server 2003 Data Center with R2 SP2
    - Windows Server 2008
    - Windows Server 2008 (AMD64/EM64T)
    - Windows Vista Desktop
    - SuSE Linux Enterprise Server 9 (Intel)
    - SuSE Linux Enterprise Server 9 (AMD64/EM64T) (32-bit app, 64-bit kernel)
    - SuSE Linux Enterprise Server 10 (Intel)
    - SuSE Linux Enterprise Server 10 (AMD64/EM64T)
    - SuSE Linux Enterprise Server 11 (Intel)
    - SuSE Linux Enterprise Server 11 (AMD64/EM64T)
    - Red Hat Enterprise Linux AS 4 (Intel)
    - Red Hat Enterprise Linux ES 4 (Intel)
    - Red Hat Enterprise Linux 4 (AMD64/EM64T)
    - Red Hat Enterprise Linux 5 (Intel)
    - Red Hat Enterprise Linux 5 (AMD64/EM64T)
    - Solaris 9 or later
    - Install footprint of 150 MB of additional fixed disk space
    - Color display 1024 x 768, 256 colors
    - The maximum color palette is 16-bit high color; 256-color palette recommended (32-bit true color is not supported).

5.4.15 Tivoli NetView Management Console Server Audit Log

To use a Web browser to view the audit log requires a browser that supports XSL (eXtensible Stylesheet Language). The following browsers support XSL:

- Mozilla Firefox 3.0 or later

- Microsoft® Internet Explorer 7.0 or later

5.4.16 NetView Performance Monitor Alerts

NetView Performance Monitor v2.7 (5654-011) or later for session alerts

5.4.17 NetView Web Application

- HTTP Server and Web Application Server

  - Any hardware that supports any of the following operating systems running IBM WebSphere Application Server V7.0.0.1:

    - AIX 5.3 or later

    - Windows Server 2003 Standard with R2 SP2

    - Windows Server 2003 Enterprise with R2 SP2

    - Windows Server 2003 Data Center with R2 SP2

    - Windows Server 2008

    - Windows Server 2008 (AMD64/EM64T)

    - SuSE Linux Enterprise Server 9 for zSeries

    - SuSE Linux Enterprise Server 10 for zSeries

    - SuSE Linux Enterprise Server 11 for zSeries

    - Red Hat Enterprise Server 4 AS (Intel)

    - Red Hat Enterprise Server 4 ES (Intel)

    - Red Hat Enterprise Linux 4.0 for zSeries with Update 2 or later

    - Red Hat Enterprise Linux 5.0 for zSeries

  - IBM WebSphere Application Server V7.0.0.1 or the embedded version of IBM, including the following additional fixed disk space:

    - 550 MB for Windows systems

    - 750 MB for all other platforms

  - For additional requirements for IBM WebSphere Application Server V7.0.0.1, refer to the WebSphere documentation for the applicable platform.

Note: If the NetView Web Application is installed on the same workstation as an existing Tivoli NetView for NT, Tivoli NetView for AIX, or in the same logical partition (LPAR) as IP resource discovery and management on Linux on zSeries, port assignment changes are required as described in the NetView Web Application readme file.

– Supported locales for the Japanese version of the NetView Web Application:

- For Windows, UTF-8

- For AIX, Ja_JP IBM-939

- For Linux on zSeries, ja-JP.euc jP

- Web Browsers

– Mozilla Firefox 3 or later with Java™ Plug-in level 1.4.2_07:

- SUSE Linux Enterprise Server 9 (Intel)

- SUSE Linux Enterprise Server 9 (AMD64/EM64T) (32-bit app, 64-bit kernel)

- SUSE Linux Enterprise Server 10 (Intel)

- SUSE Linux Enterprise Server 10 (AMD64/EM64T) (32-bit app, 64-bit kernel)

- SUSE Linux Enterprise Server 11 (Intel)

- SUSE Linux Enterprise Server 11 (AMD64/EM64T) (32-bit app, 64-bit kernel)

- Red Hat Enterprise Linux AS 4 (Intel)

- Red Hat Enterprise Linux ES 4 (Intel)

- Red Hat Enterprise Linux 4 (AMD64/EM64T) (32-bit app, 64-bit kernel)

- Red Hat Enterprise Linux 5 (Intel)

- Red Hat Enterprise Linux 5 (AMD64/EM64T) (32-bit app, 64-bit kernel)

- Solaris 9 or later

– Internet Explorer 7.0 or later with Java Plug-in level 1.4.2_07:

- Windows Server 2003 Standard with R2 SP2

- Windows Server 2003 Enterprise with R2 SP2

- Windows Server 2003 Data Center with R2 SP2

- Windows Server 2008

- Windows Server 2008 (AMD64/EM64T)

- Windows XP Professional with SP3

- Windows Vista Desktop

5.4.18 Network Asset Management

NetView Network Asset Management provides NCP vital product data (VPD) and hardware device vital product information for those devices that support the Request Product Set ID (PSID) architecture or signal converters that support LPDA-2 commands:

- ACF/NCP Version 4 Release 3.1 (5668-854) for the 3725
- ACF/NCP Version 5 Release 4 MVS (5668-738) or later for the 3720 or 3745

5.4.19 Parallel Transmission Group Support

ACF/NCP Version 5 Release 4 MVS (5668-738)

5.4.20 SAF Security Checking

z/OS (5694-A01) Security Server or later or an equivalent SAF product is required for SAF security checking of each of the following functions:

- RODM connections
- NetView operator passwords
- RMTCMD through the RMTOPS Class
- NetView command authorization
- NetView Span of Control access
- NetView operator logon information
- Graphical View security
- List RACF profile for NetView operators

5.4.21 Server Communications with NetView for z/OS using LU 6.2

- For LU 6.2 connections, one of the following systems is required:
    - AIX System
        - IBM Communications Server for AIX, Version 6.1 (5765-E51)
    - Windows System
        - IBM Communications Server for Windows XP later

5.4.22 TCP/IP Resource Discovery and Management on Linux zSeries

- SuSE Linux Enterprise Server 9 for zSeries

- SuSE Linux Enterprise Server 10 for zSeries

- SuSE Linux Enterprise Server 11 for zSeries

- Red Hat Enterprise Linux 4.0 for zSeries

- Red Hat Enterprise Linux 5.0 for zSeries

- NetView Integrated TCP/IP Services Component (ITSC) 7.1.5

The Resource Discovery function has a dependency on SNMP. The NetView program issues SNMP commands to retrieve additional stack information from some MIBs if there are TCP/IP stacks active and if the Resource Discovery function is enabled.

5.4.23 TCP/IP Stack Management (OS/390) and Telnet 3270 Management

Optional: Dynamically adding to the set of resources that are monitored and displayed at the NetView management console requires DB2 for OS/390 Version 5 Release 1 (5655-DB2) or later is required.

5.4.24 Tivoli Business System Manager

Launching Tivoli Business System Manager (TBSM) from the NetView management console or the NetView management console from TBSM requires TBSM V1R5 (5698-BSM) or later

5.4.25 Tivoli Enterprise Console, Sending Commands from Tivoli NetView for z/OS Version 5 Release 4

Sending commands from Tivoli NetView for z/OS Version 5 Release 4 to the Tivoli Enterprise Console requires the MultiSystem Manager Tivoli Management Region (TMR) Feature

5.4.26 Tivoli NetView for z/OS Enterprise Management Agent

The NetView for z/OS Enterprise Management Agent requires IBM Tivoli Monitoring V6.2.1 Interim Fix 3 or later.

You need approximately 1275 cylinders of DASD space for the generation of your runtime environment (RTE).

The NetView for z/OS Enterprise Management Agent is a separately orderable feature code that has its own FMID, CD media, and program directory. The NetView for z/OS Enterprise Management Agent Program Directory describes how to do the SMP/E installation for the NetView agent.

5.4.27 UNIX Services Commands

Issuing z/OS UNIX services commands from the NetView program requires the REXX alternate run-time library for the MultiSystem Manger component.

5.4.28 Web Services Gateway

- XML Toolkit for z/OS V1.9 or later
- z/OS V1R9 Cryptographic Services System SSL or later

You are now aware of all of the installation requirements for Tivoli NetView for z/OS Version 5 Release 4. Proceed to 6.0, "Installation Instructions" on page 39 to begin your product installation.

6.0 Installation Instructions

This chapter describes the installation method and the procedures to install and to activate the functions of Tivoli NetView for z/OS Version 5 Release 4.

If you obtained Tivoli NetView for z/OS Version 5 Release 4 as part of a CBPDO, you can use the RIMLIB job on the CBPDO tape to run the SMP/E RECEIVE and any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information about the RIMLIB job, refer to the *MVS CBPDO Memo to User Extension* included with the CBPDO.

This release of the Tivoli NetView for z/OS Version 5 Release 4 program is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands.

The procedure outlined in this chapter assumes that the user has a knowledge of SMP/E based on the *SMP/E User's Guide*. To resolve any SMP/E related problems in the procedure, refer to the *SMP/E User's Guide* and the *SMP/E Reference*. This installation process does not cover the PARMLIB or other changes to the z/OS product that are required to run Tivoli NetView for z/OS Version 5 Release 4. The z/OS changes that are required to run Tivoli NetView for z/OS Version 5 Release 4 are discussed in the *IBM Tivoli NetView for z/OS Installation: Getting Started, SC31-8872*.

Note the following:

- If you want to install Tivoli NetView for z/OS Version 5 Release 4 into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets. To assist you in doing this, IBM has samples to help you create an SMP/E environment at the following url:
  http://www-1.ibm.com/support/docview.wss?rs=660&context=SSZJDU&uid=swg21066230

- If you install the IBM Library for REXX on zSeries (5695-014) for use with Tivoli NetView for z/OS Version 5 Release 4, refer to its Program Directory for instructions on how to perform the installation.

The two basic choices for installing Tivoli NetView for z/OS Version 5 Release 4 are:

1. Install into new target and distribution zones.

   This is the recommended method for installing Tivoli NetView for z/OS Version 5 Release 4 for those who want to delete their prior release of the NetView program without keeping the prior and the new NetView program available for use at the same time (as in choice 1).

   SMP/E jobs will load the necessary code into the appropriate libraries, and try to delete any prior releases of the NetView program. Since you are installing into new CSI zones there is nothing to delete. SMP/E will continue indicating that there was nothing deleted. There is no need to give any dummy library names for your prior NetView program because SMP/E has no way to know that a previous release was ever installed.

   When your testing is finished and you have migrated completely to Tivoli NetView for z/OS Version 5 Release 4, you can run a delete job to remove the old NetView program, MultiSystem Manager, and AON/ANO FMIDs from the CSI zones. At that time, you provide the SMP/E program with access to

the old LPALIB and LINKLIB libraries. For more information see 6.1.13.1, "APPLYing Tivoli NetView for z/OS Version 5 Release 4 on a System Having the NetView Program Already Installed" on page 47. The *IBM Tivoli NetView for z/OS Installation: Configuring Additional Components, SC31-8874* contains additional information on running more than one NetView in a single host.

2. Install the NetView program within existing target and distribution zones.

This is the recommended method for installing Tivoli NetView for z/OS Version 5 Release 4 for those who want to delete their prior release of the NetView program and do not need to use a prior version of the NetView program after the NetView V5R4 program has been installed.

If you install Tivoli NetView for z/OS Version 5 Release 4 into the same zone, you must provide access to your prior libraries using DDDEFs or DD statements. SMP/E removes all traces of your previous release of the NetView program, including the FMIDs. If there are traces of prior releases that still exist in SMP/E even though the libraries have been deleted, SMP/E recognizes this and you must allocate dummy libraries for SMP/E and then apply again. When the apply and accept are complete, you can delete the dummy libraries. Be careful not to delete your real SYS1.LPALIB and SYS1.LINKLIB libraries. For more information see 6.1.13.1, "APPLYing Tivoli NetView for z/OS Version 5 Release 4 on a System Having the NetView Program Already Installed" on page 47.

If you install Tivoli NetView for z/OS Version 5 Release 4 into existing SMP/E zones or existing target and distribution libraries, or both, you must first make a backup of the zones, the target and distribution libraries, and other SMP/E data sets that will be changed during the installation. You use this backup to start over in case a severe error occurs during installation.

There is no SYSGEN support for Tivoli NetView for z/OS Version 5 Release 4. If a SYSGEN is performed after the installation of Tivoli NetView for z/OS Version 5 Release 4 is complete, the GENERATE facility of SMP/E can be used to reinstall Tivoli NetView for z/OS Version 5 Release 4.

6.1 Installing Tivoli NetView for z/OS Version 5 Release 4

The samples that are provided with Tivoli NetView for z/OS Version 5 Release 4 must be customized to work in your system's environment. Where possible, the samples call attention to places where customization is necessary; however, it is possible that additional customization might be required. For example, job card information might need to be customized. In addition to this program directory, read the comments in the JCL samples. They are designed to make it easy to find required changes. Some of the JCL values that should be verified and are most likely to need customization are coded in lowercase; a JCL error occurs if the values are overlooked.

6.1.1 SMP/E Considerations for Installing Tivoli NetView for z/OS Version 5 Release 4

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Tivoli NetView for z/OS Version 5 Release 4.

6.1.2 SMP/E Environment

All SMP/E installation jobs that are provided assume that all necessary DD statements for the execution of SMP/E are defined using DDDEFs.

Sample jobs are provided to assist you in installing Tivoli NetView for z/OS Version 5 Release 4. After the RECEIVE step has been completed, if you used the defaults supplied, the sample jobs are in SMPTLIB: **NETVIEW.JENV54E.F2**. If you did not use the value of NETVIEW for the HLQ, then they are in the data set with the name you chose. Make a copy of these jobs in your own library, and modify them to use during the installation of Tivoli NetView for z/OS Version 5 Release 4. Or, you can use the UNLOAD job that is provided in the program directory to copy the installation JCL from the tape. See 6.1.6, "Sample Jobs" on page 42.

6.1.3 SMP/E CSI for Tivoli NetView for z/OS Version 5 Release 4

You can install Tivoli NetView for z/OS Version 5 Release 4 into an existing Consolidated Software Inventory (CSI) or allocate new CSI data sets and create a separate set of global, distribution and target zones. For information on how to do this, see the *IBM SMP/E for z/OS User's Guide.*

6.1.4 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 20. Using values that are lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

Figure 20. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(300,500,900)	Use 900 directory blocks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.5 SMP/E CALLLIBS Processing

Tivoli NetView for z/OS Version 5 Release 4 uses the CALLLIBS function that is provided in SMP/E to resolve external references during installation. When Tivoli NetView for z/OS Version 5 Release 4 is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- SCEELKED
- SEZADPIL
- SEZACMTX
- SISPLOAD

Note: CALLLIBs use the previous DDDEFs only to resolve the link-edit for Tivoli NetView for z/OS Version 5 Release 4. These data sets are not updated during the installation of Tivoli NetView for z/OS Version 5 Release 4.

6.1.6 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Tivoli NetView for z/OS Version 5 Release 4:

Figure 21. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
CNMALOCE	ALLOCATE	Allocate job for target and distribution libraries for Tivoli NetView for z/OS Version 5 Release 4 host.	IBM.JENV54E.F2
CNMSHFSE	ALLOCATE	Allocate job for target HFS file system data set for Tivoli NetView for z/OS Version 5 Release 4 HFS files. (Optional)	IBM.JENV54E.F2
CNMSZFSE	ALLOCATE	Allocate job for zFS target file system data set for Tivoli NetView for z/OS Version 5 Release 4 zFS files. (Optional)	IBM.JENV54E.F2
CNMJMKPE	MKDIR	Sample job to create the HFS mount point directory. Must be done from ID with root authority.	IBM.JENV54E.F2
CNMJMKME	MKDIR	REXX exec invoked by the CNMJMKPE job to create the mount point directory.	IBM.JENV54E.F2
CNMJMKXE	MKDIR	Sample job that creates directories for the NetView program in the z/OS UNIX System Services environment. Must be done from ID with root authority.	IBM.JENV54E.F2
CNMJMKDE	MKDIR	REXX exec invoked by the CNMJMKXE job to create directories for the NetView program in the z/OS UNIX System Services environment.	IBM.JENV54E.F2
CNMDDEFE	DDDEF	Sample job to define SMP/E DDDEFs for the NetView program	IBM.JENV54E.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 21 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//UNLOAD   EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN   DD DSN=IBM.JENV54E.F2,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.JENV54E.F2,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name.V5R4M0.INSTALL,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(8800,(15,10,15))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
   COPY INDD=xxxxIN,OUTDD=OUT
/*
```

See the following information to update the statements in the previous sample:

> TAPEIN:
>> **tunit** is the unit value that matches the product tape.
>> **volser** is the volume serial that matches the product tape.
>> **x** is the tape file number that indicates the location of the data set name on the tape.
>> See the documentation that is provided by CBPDO for the location of IBM.fmid.Fy on the tape.
> FILEIN:
>> **filevol** is the volume serial of the DASD device where the downloaded files reside.
> OUT
>> **jcl-library-name** is the name of the output data set where the sample jobs are stored.
>> **dasdvol** is the volume serial of the DASD device where the output data set resides.
> SYSIN
>> **xxxxIN** is either TAPEIN or FILEIN depending on your input DD statement.

6.1.7 Perform SMP/E RECEIVE

Perform an SMP/E RECEIVE for Tivoli NetView for z/OS Version 5 Release 4.

If you obtained Tivoli NetView for z/OS Version 5 Release 4 as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Tivoli NetView for z/OS Version 5 Release 4 FMIDs, service, and HOLDDATA that are included on the CBPDO tape. For more information about the RCVPDO job, see the documentation that is included in the CBPDO.

6.1.8 Allocate SMP/E Target and Distribution Libraries

Edit and submit the CNMALOCE job to allocate the SMP/E target and distribution libraries for Tivoli NetView for z/OS Version 5 Release 4. Consult the instructions in the sample job for more information.

The SCNMLPA1 target data set must be cataloged in either the system master catalog or in a user catalog so that it can later be concatenated to the SYS1.LPALIB data set using the LPALSTxx member of

the SYS1.PARMLIB data set. For more information about the LPALIB concatenation, see *IBM Tivoli NetView for z/OS Installation: Getting Started, SC31-8872*.

Expected Return Codes and Messages: The CNMALOCE job is considered successful if you receive a return code of 0.

6.1.9 Allocate File System Mount Point Paths

Before you run the sample job to create the paths in the file system, ensure that OMVS is active on the driving system, and that the file system of the target system is mounted to the driving system. If you install Tivoli NetView for z/OS Version 5 Release 4 into a zFS file system, zFS must be active on the driving system.

If you plan to install Tivoli NetView for z/OS Version 5 Release 4 into a new file system, create the mountpoint, and mount the new file system to the driving system. You can use the CNMJMKPE job to create the mount point. The CNMJMKPE job must be run by a user ID that has SAF READ access to BPX.SUPERUSER. For Tivoli NetView for z/OS Version 5 Release 4, the recommended mountpoint is <PathPrefix>/usr/lpp/netview/v5r4/.

Note: Use this same <PathPrefix> value when you edit the CNMDDEFE job. The default value in Tivoli NetView for z/OS Version 5 Release 4 is null. Remember that pathnames in z/OS UNIX System Services are case sensitive.

Expected Return Codes and Messages: The CNMJMKPE job is considered successful if you receive a return code of 0.

6.1.10 Allocate File System Data Sets (Optional)

If you plan to allocate a new file system, run one of the following jobs:

- **For zFS environments**, edit and submit the sample CNMSZFSE job to allocate a separate zFS data set for Tivoli NetView for z/OS Version 5 Release 4. This data set is mounted to the root file system and is used as the location into which the NetView UNIX System Services code is installed. For more information on the CNMSZFSE job, see the instructions in the job.

- **For HFS environments**, edit and submit the sample CNMSHFSA job to allocate a separate HFS data set for Tivoli NetView for z/OS Version 5 Release 4. This data set is mounted to the root file system and is used as the location into which the NetView UNIX System Services code is installed. For more information on the CNMSHFSA job, see the instructions in the job.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

Expected Return Codes and Messages: The CNMSZFSE or CNMSHFSE job is considered successful if you receive a return code of 0.

6.1.11 Create Additional File System Paths

Edit and submit the sample CNMJMKXE job to create the NetView directory path in the z/OS UNIX System Services environment. This job also creates symbolic links. For more information, see the instructions in the sample job.

Expected Return Codes and Messages: The CNMJMKXE job is considered successful if you receive a return code of 0.

6.1.12 Create DDDEF Entries

Edit and submit the sample CNMDDEFE job to create DDDEF entries for the SMP/E target and distribution libraries for Tivoli NetView for z/OS Version 5 Release 4. Consult the instructions in the sample job for more information.

Note: Because path names in z/OS UNIX System Services are case sensitive, be sure that if you change <PathPrefix> in the DDDEF3 step, that you do not change the case of any characters in the HFS or zFS pathname.

Expected Return Codes and Messages: The CNMDDEFE job is considered successful if you receive a return code of 0.

6.1.13 Perform SMP/E APPLY

1. Perform an SMP/E APPLY CHECK for Tivoli NetView for z/OS Version 5 Release 4.

   HOLDDATA introduces ERROR HOLDs against FMIDs for HIPER APARs. Before the installation, ensure that you have the latest HOLDDATA, which is available through several different portals, including http://service.software.ibm.com/holdata/390holddata.html. Install the FMIDs regardless of the status of unresolved HIPERs. However, don't deploy the software until the unresolved HIPERs are analyzed to determine applicability.

   To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. This is because the SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

   Here are two methods to install FMIDs when ++HOLDs for HIPERs exist for the FMIDs that you install:

   a. To ensure that all recommended and critical service is installed with the FMIDs, if you are using SMP/E 3.5 or later and have received the latest HOLDDATA, add the FIXCAT operand to the APPLY command:

   ```
   APPLY S(fmid,fmid,...)
   FORFMID(fmid,fmid,...)
   SOURCEID(RSU*)
   FIXCAT(IBM.ProductInstall-RequiredService)
   GROUPEXTEND .
   ```

If you are using a prior release of SMP/E, add the SOURCEID(HIPER,RSU*) operand to the APPLY command:

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(HIPER,RSU*)
GROUPEXTEND .
```

Some HIPER APARs might not have PTFs available yet. You have to analyze the symptom flags to determine if you want to bypass the specific ERROR HOLDs and continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixes available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

b. To install the FMIDs without regard for the HIPERs, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. In this way, you can install FMIDs even though HIPER ERROR HOLDs against them still exist. Only the HIPER ERROR HOLDs are bypassed. After the FMIDs are installed, run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER maintenance.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
 ..any other parameters documented in the program directory
```

This method is the faster of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs. If you are running SMP/E V3.5 or later and have received the latest HOLDDATA, you can also choose to run REPORT MISSINGFIX for Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because PTFs are not yet available, you can notify yourself when the PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

2. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

   Note: The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

If you previously installed NetView into target libraries that you will continue to use with Tivoli NetView for z/OS Version 5 Release 4, you need to let SMP/E remove the old NetView program from those target libraries at APPLY time. See section 6.1.13.1, "APPLYing Tivoli NetView for z/OS Version 5 Release 4 on a System Having the NetView Program Already Installed" on page 47 for more information.

Note: It is strongly recommended that you APPLY the NetView components in the following order:

1. HENV54B

2. JENV54E

The order is important because Tivoli NetView for z/OS Version 5 Release 4 has many dependencies between components. These dependencies will cause unresolved external reference messages to be generated during the APPLY.

The APPLY job must be run by a user ID that has SAF READ access to BPX.SUPERUSER.

Important: Because Tivoli NetView for z/OS Version 5 Release 4 has two FMIDs, some load modules are built with parts from multiple FMIDs. SMP/E handles this automatically for you by keeping track of what parts are needed and adding them into load modules as they are applied. However, this means that some linkage editor steps initially finish with a return code of 4. To keep the APPLY step from ending prematurely, you must set SMP/E to allow a return code of 4. To do this, use the SMP/E dialogs or UCLIN commands to set the return code for specific utilities such as IEWL, the binder.

Expected Return Codes and Messages from APPLY CHECK: This job is considered successful if you receive a return code of 0.

Expected Return Codes and Messages from APPLY: This job is considered successful if you receive a return code of 0.

6.1.13.1 APPLYing Tivoli NetView for z/OS Version 5 Release 4 on a System Having the NetView Program Already Installed

If you previously installed the NetView program into system libraries and you will use those libraries again with Tivoli NetView for z/OS Version 5 Release 4, but you do not want to continue using this release after your Tivoli NetView for z/OS Version 5 Release 4 install, you need to use SMP/E to remove the previous NetView version data sets from those libraries when SMP/E installs Tivoli NetView for z/OS Version 5 Release 4.

For SMP/E to remove the previous release of the NetView program from your system libraries, do the following steps:

1. Run your APPLY job referencing the previous release NetView libraries and SMP/E zone. Make sure that these libraries are large enough to hold the new release. Some libraries have grown in size because of data set consolidation and additional functions. Refer to Figure 16 on page 23 for the minimum NetView library sizes.

2. During an APPLY, all the elements from a previous release are deleted from your target libraries. If you already deleted previous release libraries or elements within a library, the SMP/E entry for them still exists. An attempt will be made to delete elements, and processing will continue whether or not they are found. However, if SMP/E cannot find the data sets, it halts the APPLY until you provide access to them. In this case, allocate dummy libraries and delete them after the APPLY.

3. Any previous release NetView data sets that are deleted should be removed from your SMP/E zone DDDEFs (CNMDDEFE). If you have a previous version of MultiSystem Manager or AON or ANO installed you need to delete those data sets.

Note: If an IPL is done before the SCNMLPA1 data set is allocated, a warning message is displayed indicating that the SCNMLPA1 data set cannot be allocated, and the NetView program will not start correctly.

To lessen the exposure to this situation, you might want to add SCNMLPA1 to the LPALSTxx member (refer to *IBM Tivoli NetView for z/OS Installation: Getting Started, SC31-8872*) before actually APPLYing Tivoli NetView for z/OS Version 5 Release 4.

6.1.14 Perform SMP/E ACCEPT

Perform an SMP/E ACCEPT CHECK for Tivoli NetView for z/OS Version 5 Release 4.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. This is because the SMP/E root cause analysis identifies the cause of only *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, set the ACCJCLIN indicator in the distribution zone. By doing this, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from ACCEPT CHECK: This job is considered successful if you receive a return code of 0.

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing link-edits or binds the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which results in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: This job is considered successful if you receive a return code of 0.

6.1.14.1 ACCEPTing Tivoli NetView for z/OS Version 5 Release 4 on a System Having the NetView Program Already Installed

If you previously installed the NetView program into system libraries and you will reuse those libraries with Tivoli NetView for z/OS Version 5 Release 4, but you do not want to continue using this release after your Tivoli NetView for z/OS Version 5 Release 4 installation, you need to let SMP/E remove the old NetView programs from those libraries when SMP/E installs Tivoli NetView for z/OS Version 5 Release 4.

To allow SMP/E to remove the old NetView programs from your system libraries, do the following steps:

1. Run your ACCEPT job using your previous release NetView libraries and SMP/E zone. Make sure that these libraries are large enough to hold the new release. Some libraries have grown in size because of data set consolidation and additional functions. Refer to Figure 18 on page 25 for the minimum NetView library sizes.

2. During an ACCEPT, all the elements from a previous release are deleted from your distribution libraries. If you previously deleted old libraries or elements within a library, the SMP/E entry for them still exists. An attempt is made to delete them and processing continues whether or not the element is found. However, if SMP/E cannot find the data sets, it stops the ACCEPT until you provide access to them. In this case, allocate dummy libraries and delete them after the ACCEPT.

3. Any old NetView data sets that are deleted should also be removed from your SMP/E zone DDDEFs. If you have a previous version of MultiSystem Manager or AON/ANO installed you must also delete those data sets.

6.2 Activating Tivoli NetView for z/OS Version 5 Release 4

If you mount the file system in which you installed Tivoli NetView for z/OS Version 5 Release 4 in read-only mode during execution, then you do not have to take further actions to activate Tivoli NetView for z/OS Version 5 Release 4.

The publication *IBM Tivoli NetView for z/OS Installation: Getting Started, SC31-8872* contains the step-by-step procedures to activate the functions of Tivoli NetView for z/OS Version 5 Release 4.

The publication *IBM Tivoli NetView for z/OS Installation: Migration Guide* describes the new functions provided by the current release of the NetView product and the migration of the base functions from a previous release.

For additional information refer to the publications noted in Figure 3 on page 9.

Appendix A. Program Level Information

The following APAR fixes against previous releases of the NetView program are incorporated into Tivoli NetView for z/OS Version 5 Release 4:

OA01523	OA02136	OA02762	OA03340	OA03834
OA01535	OA02160	OA02777	OA03341	OA03836
OA01543	OA02164	OA02799	OA03371	OA03842
OA01548	OA02181	OA02811	OA03375	OA03844
OA01587	OA02191	OA02812	OA03393	OA03862
OA01614	OA02232	OA02818	OA03394	OA03896
OA01645	OA02246	OA02831	OA03409	OA03897
OA01666	OA02251	OA02836	OA03410	OA03925
OA01671	OA02257	OA02861	OA03411	OA03926
OA01688	OA02258	OA02862	OA03413	OA03930
OA01691	OA02260	OA02863	OA03499	OA03933
OA01703	OA02264	OA02883	OA03538	OA03938
OA01706	OA02298	OA02917	OA03540	OA03957
OA01718	OA02309	OA02920	OA03573	OA03963
OA01724	OA02335	OA02935	OA03575	OA03964
OA01728	OA02356	OA02944	OA03576	OA03976
OA01752	OA02358	OA02961	OA03587	OA03982
OA01767	OA02364	OA02969	OA03598	OA03992
OA01777	OA02370	OA02971	OA03600	OA04000
OA01783	OA02393	OA03015	OA03638	OA04042
OA01805	OA02398	OA03019	OA03722	OA04104
OA01821	OA02402	OA03027	OA03724	OA04105
OA01822	OA02432	OA03045	OA03725	OA04121
OA01824	OA02472	OA03053	OA03729	OA04128
OA01827	OA02473	OA03080	OA03736	OA04241
OA01833	OA02482	OA03086	OA03750	OA04258
OA01903	OA02497	OA03089	OA03752	OA04267
OA01907	OA02515	OA03092	OA03763	OA04304
OA01909	OA02526	OA03097	OA03774	OA04353
OA01975	OA02533	OA03098	OA03784	OA04381
OA01993	OA02535	OA03174	OA03798	OA04433
OA02015	OA02545	OA03206	OA03799	OA04440
OA02020	OA02557	OA03208	OA03800	OA04457
OA02062	OA02618	OA03212	OA03804	OA04474
OA02071	OA02647	OA03215	OA03807	OA04476
OA02073	OA02725	OA03257	OA03813	OA04477
OA02077	OA02748	OA03298	OA03814	OA04487
OA02084	OA02751	OA03330	OA03828	OA04521
OA02099	OA02758	OA03339	OA03831	OA04545

OA04559	OA05206	OA05878	OA06524	OA07202
OA04583	OA05224	OA05886	OA06536	OA07217
OA04584	OA05238	OA05890	OA06547	OA07227
OA04610	OA05239	OA05906	OA06559	OA07230
OA04627	OA05243	OA05909	OA06561	OA07234
OA04628	OA05258	OA05919	OA06566	OA07252
OA04641	OA05276	OA05939	OA06580	OA07253
OA04643	OA05286	OA05964	OA06590	OA07254
OA04667	OA05290	OA05965	OA06595	OA07305
OA04668	OA05291	OA05970	OA06597	OA07306
OA04678	OA05304	OA05973	OA06598	OA07315
OA04738	OA05354	OA05986	OA06631	OA07325
OA04743	OA05430	OA05991	OA06656	OA07338
OA04775	OA05431	OA06015	OA06657	OA07377
OA04796	OA05436	OA06056	OA06675	OA07378
OA04811	OA05456	OA06084	OA06680	OA07384
OA04815	OA05466	OA06093	OA06693	OA07408
OA04828	OA05490	OA06117	OA06700	OA07420
OA04831	OA05505	OA06145	OA06705	OA07444
OA04880	OA05512	OA06157	OA06706	OA07455
OA04887	OA05522	OA06182	OA06736	OA07474
OA04898	OA05539	OA06208	OA06743	OA07492
OA04899	OA05553	OA06226	OA06768	OA07509
OA04936	OA05564	OA06236	OA06782	OA07516
OA04937	OA05577	OA06241	OA06812	OA07517
OA04955	OA05583	OA06242	OA06825	OA07529
OA04963	OA05585	OA06257	OA06826	OA07540
OA04978	OA05595	OA06265	OA06828	OA07547
OA04998	OA05601	OA06273	OA06832	OA07564
OA04999	OA05621	OA06277	OA06835	OA07583
OA05011	OA05622	OA06298	OA06851	OA07601
OA05013	OA05640	OA06299	OA06856	OA07670
OA05014	OA05643	OA06301	OA06872	OA07741
OA05017	OA05656	OA06317	OA06882	OA07747
OA05018	OA05662	OA06321	OA06928	OA07752
OA05024	OA05679	OA06334	OA06986	OA07754
OA05029	OA05760	OA06335	OA07010	OA07755
OA05066	OA05768	OA06337	OA07029	OA07756
OA05070	OA05781	OA06410	OA07056	OA07781
OA05082	OA05829	OA06465	OA07062	OA07800
OA05089	OA05834	OA06466	OA07089	OA07804
OA05140	OA05839	OA06482	OA07124	OA07813
OA05178	OA05840	OA06506	OA07141	OA07835
OA05189	OA05845	OA06512	OA07175	OA07844
OA05202	OA05852	OA06517	OA07190	OA07848
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OA07899	OA08533	OA09610	OA10427	OA11447
OA07922	OA08549	OA09672	OA10432	OA11494
OA07930	OA08552	OA09702	OA10465	OA11510
OA07938	OA08569	OA09705	OA10468	OA11542
OA07947	OA08593	OA09748	OA10507	OA11588
OA07958	OA08605	OA09757	OA10544	OA11594
OA07974	OA08628	OA09772	OA10548	OA11676
OA07994	OA08639	OA09778	OA10567	OA11788
OA07995	OA08649	OA09781	OA10712	OA11813
OA08020	OA08653	OA09790	OA10727	OA11850
OA08051	OA08697	OA09811	OA10730	OA11900
OA08056	OA08739	OA09821	OA10732	OA11915
OA08070	OA08740	OA09830	OA10733	OA11964
OA08071	OA08827	OA09852	OA10766	OA12006
OA08081	OA08847	OA09863	OA10787	OA12008
OA08115	OA08851	OA09893	OA10788	OA12010
OA08116	OA08904	OA09945	OA10792	OA12094
OA08117	OA08933	OA09999	OA10815	OA12095
OA08134	OA08934	OA10032	OA10829	OA12163
OA08146	OA08943	OA10035	OA10862	OA12177
OA08223	OA08958	OA10036	OA10867	OA12183
OA08235	OA08974	OA10046	OA10887	OA12212
OA08247	OA08989	OA10047	OA10905	OA12228
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OA08257	OA09153	OA10068	OA10935	OA12414
OA08288	OA09156	OA10069	OA10962	OA12450
OA08296	OA09161	OA10070	OA10971	OA12514
OA08298	OA09209	OA10088	OA10990	OA12532
OA08313	OA09250	OA10098	OA11000	OA12548
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OA08335	OA09260	OA10140	OA11024	OA12630
OA08337	OA09261	OA10142	OA11072	OA12640
OA08349	OA09262	OA10161	OA11141	OA12646
OA08368	OA09263	OA10166	OA11142	OA12745
OA08377	OA09264	OA10168	OA11173	OA12751
OA08379	OA09293	OA10199	OA11192	OA12768
OA08386	OA09304	OA10200	OA11215	OA12826
OA08388	OA09328	OA10234	OA11230	OA12847
OA08431	OA09334	OA10257	OA11247	OA12852
OA08436	OA09343	OA10299	OA11251	OA12868
OA08461	OA09394	OA10353	OA11281	OA12874
OA08474	OA09455	OA10367	OA11300	OA12890
OA08480	OA09511	OA10394	OA11344	OA12916
OA08484	OA09546	OA10411	OA11348	OA12926
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OA13121	OA14821	OA15630	OA16777	OA18021
OA13140	OA14832	OA15631	OA16844	OA18039
OA13167	OA14842	OA15664	OA16848	OA18044
OA13187	OA14869	OA15667	OA16871	OA18056
OA13212	OA14893	OA15671	OA16928	OA18057
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OA13254	OA14940	OA15714	OA17043	OA18156
OA13275	OA14953	OA15729	OA17125	OA18157
OA13356	OA14982	OA15739	OA17132	OA18171
OA13377	OA15010	OA15748	OA17134	OA18189
OA13383	OA15027	OA15773	OA17136	OA18206
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OA13538	OA15058	OA15904	OA17171	OA18263
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OA13586	OA15090	OA15919	OA17220	OA18317
OA13592	OA15135	OA15923	OA17245	OA18398
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OA13631	OA15253	OA15933	OA17316	OA18413
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OA13805	OA15293	OA16198	OA17371	OA18449
OA13824	OA15313	OA16235	OA17376	OA18489
OA13851	OA15351	OA16276	OA17380	OA18511
OA14016	OA15373	OA16297	OA17381	OA18511
OA14070	OA15375	OA16298	OA17416	OA18542
OA14195	OA15381	OA16305	OA17489	OA18625
OA14198	OA15404	OA16317	OA17528	OA18658
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OA14271	OA15411	OA16440	OA17558	OA18718
OA14453	OA15416	OA16482	OA17598	OA18735
OA14500	OA15419	OA16535	OA17634	OA18745
OA14501	OA15462	OA16577	OA17676	OA18750
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OA14569	OA15482	OA16630	OA17758	OA18886
OA14570	OA15520	OA16644	OA17786	OA18949
OA14598	OA15524	OA16650	OA17787	OA18951
OA14612	OA15538	OA16684	OA17925	OA18970
OA14707	OA15545	OA16688	OA17932	OA18972
OA14712	OA15547	OA16700	OA17937	OA18974
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OA19102	OA21069	OA23330	OA25285	OA27033
OA19175	OA21074	OA23438	OA25360	OA27080
OA19259	OA21076	OA23523	OA25436	OA27095
OA19292	OA21148	OA23604	OA25492	OA27113
OA19334	OA21169	OA23605	OA25493	OA27160
OA19385	OA21184	OA23626	OA25495	OA27204
OA19482	OA21220	OA23657	OA25510	OA27210
OA19509	OA21242	OA23712	OA25524	OA27361
OA19614	OA21304	OA23742	OA25534	OA27372
OA19669	OA21326	OA23764	OA25575	OA27391
OA19693	OA21411	OA23804	OA25628	OA27416
OA19812	OA21417	OA23806	OA25673	OA27541
OA19841	OA21511	OA23851	OA25679	OA27551
OA19848	OA21628	OA23895	OA25718	OA27564
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OA19857	OA21682	OA23984	OA25768	OA27576
OA19873	OA21713	OA23998	OA25936	OA27581
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OA19954	OA21775	OA24224	OA25962	OA27722
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OA20101	OA22061	OA24328	OA25978	OA27882
OA20148	OA22087	OA24331	OA26040	OA27950
OA20161	OA22100	OA24341	OA26055	OA28023
OA20163	OA22171	OA24409	OA26056	OA28138
OA20173	OA22301	OA24439	OA26075	OA28282
OA20175	OA22364	OA24491	OA26096	OA28316
OA20244	OA22394	OA24514	OA26127	OA28325
OA20283	OA22460	OA24540	OA26182	OA28446
OA20295	OA22576	OA24558	OA26232	OA28508
OA20355	OA22579	OA24577	OA26246	OA28610
OA20401	OA22596	OA24740	OA26263	OA28641
OA20410	OA22621	OA24784	OA26433	OA28697
OA20451	OA22640	OA24868	OA26530	OA28942
OA20467	OA22712	OA24884	OA26587	OA28978
OA20546	OA22729	OA24942	OA26638	OA29000
OA20598	OA22739	OA24946	OA26736	OA29013
OA20607	OA22780	OA24959	OA26746	OA29348
OA20646	OA22790	OA24987	OA26805	OW18382
OA20726	OA22893	OA25073	OA26807	OW21096
OA20789	OA22928	OA25150	OA26808	OW21358
OA20840	OA23169	OA25167	OA26893	OW21663
OA20958	OA23178	OA25214	OA26928	OW21665
OA20997	OA23245	OA25235	OA26978	OW22271
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OW23587	OW25072	OW26294	OW27903	OW28990
OW23650	OW25087	OW26310	OW27929	OW29020
OW23683	OW25101	OW26321	OW27943	OW29086
OW23739	OW25319	OW26332	OW27944	OW29094
OW23806	OW25367	OW26364	OW27992	OW29100
OW23869	OW25444	OW26388	OW27996	OW29120
OW23954	OW25491	OW26409	OW28000	OW29168
OW23986	OW25504	OW26420	OW28005	OW29197
OW24010	OW25519	OW26442	OW28006	OW29230
OW24049	OW25591	OW26447	OW28018	OW29270
OW24053	OW25597	OW26505	OW28040	OW29316
OW24085	OW25607	OW26642	OW28128	OW29365
OW24098	OW25629	OW26743	OW28162	OW29393
OW24129	OW25630	OW26754	OW28186	OW29454
OW24130	OW25631	OW26789	OW28198	OW29459
OW24161	OW25639	OW26797	OW28222	OW29481
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OW24323	OW25680	OW26801	OW28273	OW29506
OW24351	OW25709	OW26803	OW28298	OW29571
OW24356	OW25760	OW26838	OW28359	OW29579
OW24414	OW25832	OW26868	OW28360	OW29621
OW24451	OW25852	OW26882	OW28402	OW29637
OW24457	OW25923	OW26932	OW28435	OW29679
OW24520	OW25927	OW26996	OW28453	OW29729
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OW24553	OW25942	OW27102	OW28487	OW29755
OW24555	OW25944	OW27158	OW28492	OW29780
OW24556	OW25968	OW27159	OW28499	OW29801
OW24557	OW26026	OW27222	OW28508	OW29802
OW24558	OW26048	OW27228	OW28530	OW29803
OW24559	OW26055	OW27288	OW28565	OW29804
OW24628	OW26056	OW27305	OW28566	OW29809
OW24667	OW26081	OW27381	OW28575	OW29828
OW24714	OW26083	OW27507	OW28577	OW29851
OW24782	OW26088	OW27509	OW28607	OW29894
OW24783	OW26117	OW27541	OW28652	OW29898
OW24807	OW26158	OW27542	OW28744	OW29907
OW24809	OW26165	OW27555	OW28745	OW29943
OW24810	OW26168	OW27556	OW28747	OW29958
OW24853	OW26189	OW27634	OW28757	OW30085
OW24926	OW26197	OW27695	OW28758	OW30107
OW25007	OW26268	OW27755	OW28771	OW30165
OW25015	OW26272	OW27762	OW28777	OW30185
OW25021	OW26276	OW27810	OW28843	OW30186
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OW30231	OW31092	OW32501	OW33475	OW34548
OW30262	OW31118	OW32502	OW33498	OW34552
OW30270	OW31141	OW32507	OW33503	OW34553
OW30279	OW31164	OW32552	OW33513	OW34561
OW30286	OW31165	OW32561	OW33563	OW34563
OW30296	OW31172	OW32562	OW33650	OW34624
OW30297	OW31182	OW32569	OW33666	OW34638
OW30302	OW31196	OW32575	OW33667	OW34656
OW30331	OW31219	OW32584	OW33683	OW34723
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OW30374	OW31304	OW32794	OW33728	OW34743
OW30395	OW31386	OW32818	OW33732	OW34758
OW30429	OW31414	OW32837	OW33804	OW34793
OW30431	OW31468	OW32842	OW33835	OW34831
OW30438	OW31504	OW32843	OW33836	OW34833
OW30446	OW31505	OW32855	OW33869	OW34834
OW30448	OW31530	OW32918	OW33870	OW34835
OW30460	OW31555	OW32945	OW33908	OW34906
OW30462	OW31574	OW32956	OW33953	OW34975
OW30500	OW31587	OW32957	OW33961	OW34997
OW30509	OW31603	OW32965	OW33978	OW35047
OW30526	OW31604	OW32974	OW34022	OW35082
OW30533	OW31736	OW32979	OW34084	OW35125
OW30538	OW31740	OW32986	OW34138	OW35176
OW30539	OW31741	OW32997	OW34139	OW35223
OW30542	OW31747	OW33013	OW34143	OW35249
OW30547	OW31763	OW33016	OW34153	OW35255
OW30577	OW31769	OW33081	OW34172	OW35262
OW30817	OW31801	OW33100	OW34188	OW35263
OW30829	OW31826	OW33139	OW34272	OW35267
OW30834	OW31866	OW33140	OW34283	OW35268
OW30848	OW31910	OW33163	OW34296	OW35278
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OW30917	OW32096	OW33208	OW34396	OW35281
OW30944	OW32153	OW33217	OW34444	OW35290
OW30946	OW32167	OW33219	OW34490	OW35306
OW30982	OW32185	OW33222	OW34496	OW35344
OW30985	OW32186	OW33231	OW34504	OW35349
OW31005	OW32282	OW33318	OW34516	OW35376
OW31006	OW32284	OW33319	OW34521	OW35387
OW31019	OW32370	OW33320	OW34530	OW35393
OW31023	OW32428	OW33323	OW34539	OW35396
OW31070	OW32444	OW33331	OW34540	OW35432
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OW35519	OW36193	OW36915	OW37584	OW38281
OW35520	OW36194	OW36916	OW37586	OW38285
OW35547	OW36195	OW36917	OW37605	OW38289
OW35552	OW36221	OW36944	OW37617	OW38309
OW35556	OW36249	OW36964	OW37649	OW38313
OW35559	OW36252	OW36966	OW37658	OW38314
OW35572	OW36255	OW36994	OW37682	OW38323
OW35609	OW36291	OW37017	OW37697	OW38335
OW35623	OW36292	OW37019	OW37706	OW38349
OW35634	OW36300	OW37020	OW37707	OW38368
OW35635	OW36336	OW37045	OW37714	OW38389
OW35636	OW36370	OW37051	OW37715	OW38454
OW35639	OW36388	OW37052	OW37721	OW38455
OW35661	OW36396	OW37065	OW37729	OW38467
OW35682	OW36400	OW37083	OW37761	OW38472
OW35689	OW36439	OW37087	OW37779	OW38476
OW35718	OW36451	OW37093	OW37792	OW38506
OW35721	OW36457	OW37095	OW37798	OW38523
OW35723	OW36490	OW37133	OW37799	OW38555
OW35747	OW36499	OW37147	OW37806	OW38608
OW35804	OW36505	OW37155	OW37808	OW38614
OW35806	OW36511	OW37158	OW37855	OW38617
OW35823	OW36538	OW37163	OW37914	OW38630
OW35859	OW36560	OW37196	OW37953	OW38636
OW35861	OW36572	OW37198	OW37969	OW38639
OW35863	OW36578	OW37222	OW38023	OW38653
OW35875	OW36593	OW37278	OW38032	OW38680
OW35891	OW36606	OW37287	OW38047	OW38682
OW35892	OW36610	OW37329	OW38052	OW38684
OW35898	OW36639	OW37342	OW38057	OW38688
OW35925	OW36661	OW37354	OW38081	OW38689
OW35942	OW36680	OW37406	OW38085	OW38706
OW35966	OW36681	OW37441	OW38112	OW38748
OW36036	OW36711	OW37463	OW38121	OW38760
OW36037	OW36712	OW37465	OW38145	OW38781
OW36038	OW36737	OW37485	OW38153	OW38811
OW36039	OW36743	OW37486	OW38163	OW38834
OW36040	OW36754	OW37493	OW38171	OW38838
OW36044	OW36791	OW37502	OW38175	OW38879
OW36045	OW36794	OW37512	OW38186	OW38891
OW36101	OW36799	OW37539	OW38207	OW38897
OW36118	OW36827	OW37556	OW38213	OW38915
OW36132	OW36856	OW37568	OW38228	OW38916
OW36184	OW36858	OW37573	OW38231	OW38945
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