IBM Tivoli NetView for UNIX Release Notes

Version 7.1.4
IBM Tivoli NetView for UNIX Release Notes

Version 7.1.4

This edition applies to Version 7, Release 1.4 of IBM Tivoli NetView for UNIX (product number 5698-NTV) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About This Book

This document provides information about the IBM® Tivoli® NetView® for UNIX®, Version 7.1.4 product. These notes provide the most current information and take precedence over all other documentation.

Review these notes thoroughly before installing, upgrading, or using this product.

Who Should Read This Book

This document is intended for network administrators.

Publications

This section lists publications in the Tivoli NetView for UNIX library and any other related documents. It also describes how to access Tivoli publications online and how to order Tivoli publications.

IBM Tivoli NetView for UNIX Library

The following documents are available in the IBM Tivoli NetView for UNIX library for Version 7.1.4:

- Tivoli NetView Administrator’s Guide
- Tivoli NetView Administrator’s Reference
- Tivoli NetView Database Guide
- Tivoli NetView Host Connection
- Tivoli NetView Configuration Guide
- Tivoli NetView MLM User’s Guide
- Tivoli NetView Programmer’s Guide
- Tivoli NetView Programmer’s Reference
- Tivoli NetView User’s Guide for Beginners
- Tivoli NetView Web Console User’s Guide

Related publications

The Tivoli Software Glossary includes definitions for many of the technical terms related to Tivoli software. The Tivoli Software Glossary is available, in English only, at the following Tivoli software library Web site:


Access the glossary by clicking the Glossary link on the left pane of the Tivoli software library window.

Accessing publications online

The product CD contains the publications that are in the product library. The format of the publications is PDF, HTML, or both. (DynaText is no longer supported.) You can access the publications from the top-level directory on the product CD or else from the console, using the Help —> Books Online menu item.
PDF versions are available in the /usr/OV/books/C/pdf directory and the HTML versions are available in the /usr/OV/books/C/html directory. If you have installed a non-English version of the Tivoli NetView product, replace the C subdirectory with the appropriate locale specifier.

The online help facility provides task and user interface information.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli software information center Web site. The Tivoli software information center is located at the following Web address:


Scroll down and click the Product manuals link. In the Tivoli Technical Product Documents Alphabetical Listing window, click the <Your Product Library Name> link to access the product library at the Tivoli software information center.

Note: If you print PDF documents on other than letter-sized paper, set the option in the File → Print window that allows Adobe Reader to print letter-sized pages on your local paper.

Ordering publications
You can order many Tivoli publications online at the following Web site:


You can also order by telephone by calling one of these numbers:
• In the United States: 800-879-2755
• In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:

http://www.ibm.com/software/tivoli/order-lit/

Contacting software support
If you have a problem with any Tivoli product, refer to the following IBM Software Support Web site:


If you want to contact software support, see the IBM Software Support Guide at the following Web site:

http://techsupport.services.ibm.com/guides/handbook.html

The guide provides information about how to contact IBM Software Support, depending on the severity of your problem, and the following information:
• Registration and eligibility
• Telephone numbers and e-mail addresses, depending on the country in which you are located
• Information you must have before contacting IBM Software Support
Typeface Conventions

This guide uses several typeface conventions for special terms and actions. These conventions have the following meaning:

**Bold**
Commands, keywords, file names, authorization roles, URLs, or other information that you must use literally appear in **bold**. The names of titles of screen objects also appear in **bold**.

**Italics**
Variables and values that you specify appear in **italics**. Words and phrases that are emphasized also appear in **italics**.

**Bold Italic**
New terms appear in **bold italic** when they are defined in text.

**Monospace**
Code examples, output and system messages appear in a **monospace** font.

Operating system-dependent variables and paths

This guide uses the UNIX convention for specifying environment variables and for directory notation.

When using the Windows command line, replace `$variable` with `%variable%` for environment variables and replace each forward slash (`/`) with a backslash (`\`) in directory paths. The names of environment variables are not always the same in Windows and UNIX. For example, `%TEMP%` in Windows is equivalent to `$tmp` in UNIX.

**Note:** If you are using the bash shell on a Windows system, you can use the UNIX conventions.

Accessibility Information

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. The major accessibility features in this product enable users to:

- Operate specific or equivalent features using only the keyboard.
- Keyboard Navigation of the User Interface.

Keyboard Access

Standard shortcut and accelerator keys are used by the product and are documented by the operating system. Refer to the documentation provided by your operating system for more information.

Participating in newsgroups

User groups provide software professionals with a forum for communicating ideas, technical expertise, and experiences related to the product. They are located on the Internet and are available using standard news reader programs. These groups are primarily intended for user-to-user communication and are not a replacement for formal support.

To access a newsgroup, use the instructions appropriate for your browser.

Use these instructions for a Microsoft® Internet Explorer browser.
1. Open an Internet Explorer browser.
2. From the **Tools** menu, click **Internet Options**.
3. On the Internet Options window, click the **Programs** tab.
4. In the **Newsgroups** list, click the Down Arrow and then click **Outlook Express**.
5. Click **OK**.
6. Close your Internet Explorer browser and then open it again.
7. Cut and paste the newsgroup address of a product into the browser **Address** field, and press Enter to open the newsgroup.

Use these instructions for a Netscape Navigator browser.

1. Open a Netscape Navigator browser.
2. From the **Edit** menu, click **Preferences**. The Preferences window is displayed.
3. In the **Category** view, click **Mail & Newsgroups** to display the Mail & Newsgroups settings.
4. Select the **Use Netscape mail as the default mail application** check box.
5. Click **OK**.
6. Close your Netscape Navigator browser and then open it again.
7. Cut and paste the newsgroup address of a product into the browser **Address** field, and press Enter to open the newsgroup.

IBM Tivoli NetView for UNIX and IBM Tivoli NetView for Windows®

```
news://news.software.ibm.com/ibm.software.tivoli.netview-unix-windows
```

IBM Tivoli Enterprise Console®

```
news://news.software.ibm.com/ibm.software.tivoli.enterprise-console
```
New Features and Enhancements for Version 7.1.4


Service Discovery and Monitoring

Part of managing a network involves knowing which nodes provide important services, such as DB2® servers and WebSphere® Application servers, and monitoring the status of these services. The service monitor application provides a function to discover and monitor these services. The service monitor application is implemented as the servmon daemon. The servmon daemon discovers and monitors services on Tivoli NetView managed nodes. The servmon daemon uses a default configuration file to specify which services to discover, the discovery and monitoring methods, and how often to check the status of all discovered services.
The servmon daemon can be stopped, started and configured using new options in the Server Setup application. See the *Tivoli NetView for UNIX Administrator’s Guide, Version 7.1.4* for more information.

The servmon daemon runs continually and performs all workload balancing and automatic scheduling of service discovery and status checking. CRON jobs are not needed to perform scheduled service discovery or status checking of services like the nvsniffer application does.

The service monitor function replaces the function performed by the nvsniffer application. It is recommended that you stop using nvsniffer and use the service monitor instead. Unlike the nvsniffer application, the servmon daemon responds to real-time, asynchronous changes to topology and SmartSet membership. It accomplishes this by detecting traps from the trapd daemon and messages from the nvcmd daemon. This enables the servmon daemon to maintain accurate internal node lists for discovering and monitoring services and internal SmartSet membership lists. The nvsniffer application does not maintain long-lived topology or SmartSet membership information and does not respond to asynchronous topology and SmartSet changes.

The servmon daemon detects and acts on the following traps:
- Node Up
- Node Down
- Node Marginal
- Node Added
- Node Deleted
- Node Managed
- Node Unmanaged
- Interface Added
- Interface Deleted
- Service Removed (from a node)
- Service Managed
- Service Unmanaged
- Change Service Polling Intervals
- SNMP Address Changed
- Demand Poll (Forced Poll)

The servmon daemon detects and acts on the following messages from the nvcold daemon:
- Collection (SmartSet) Added
- Collection (SmartSet) Deleted
- Collection (SmartSet) Object Added
- Collection (SmartSet) Object Removed

**Revised Tivoli Enterprise Console Integration for Version 7.1.4**

This section provides information about enhancements that were made to the integration of the Tivoli NetView product and Tivoli Enterprise Console product. For more information about these enhancements, see the *Tivoli NetView for UNIX Administrator’s Guide* and the Tivoli Enterprise Console library.

- The Tivoli NetView product can now communicate with the Tivoli Enterprise Console product using the Tivoli communication method. You can now choose one of the following communications methods either when you install the Tivoli NetView product or after it has been installed using either the instalnv or nvits_config scripts:
- Use the -T option to specify the Tivoli communication method, which is a more secure form of communication.
- Use the -t option to specify the non-Tivoli communication method, which is a sockets-based form of communication. This was the only communication method that was available in previous versions of the Tivoli NetView for UNIX product.


- The Tivoli NetView product no longer automatically forwards TEC_ITS_L2_NODE_STATUS events to the Tivoli Enterprise Console product.
- If the servmon daemon is enabled to use port sniffing to determine if a service is present on a server, a large number of Tivoli Enterprise Console events can be generated if you employ an intrusion detection mechanism, such as the Network Intrusion Detection System (NIDS) provided by the Tivoli Risk Manager product. If you use the Tivoli Risk Manager Network Intrusion Detection System, you can choose to implement an event filter for the Risk Manager Agent that is installed on the event server that will drop NIDS scan events that originate from the Tivoli NetView server.

The following filter is designed to drop NIDS_SCAN events that were the result of a port scan originating from the identified host. Note the two-part test for host. The Tivoli NetView server is identified as hostname `nvserver` with an IP address of 1.1.111.12. If any expression in the `<OR>` clause is true, then the `<OR>` clause is true.

```xml
<filter name ="NIDSPortScan">  
  <NOT>
    <AND>
      <isa value ="NIDS_Scan"/>
      <OR>
        <field name ="rm_SourceHostname"matchtype="equals"value="nvserver"/>
        <field name ="rm_SourceIPAddr"matchtype="equals"value="1.1.111.12"/>
      </OR>
    </AND>
  </NOT>
</filter>
```

Add this event filter definition to the `rmagent.xml` file in the `RMINSTDIR/etc` directory of the Tivoli Risk Manager server and the Tivoli Enterprise Console event server.

The filter is then attached to the appropriate connector definition that is also in the `rmagent.xml` file as follows:

When nonsecure sockets are being used for the receiving connection, add the filter to the following connector:

```xml
<connector>
  <from name ="eif_receiver"/>
  <to name ="correlation"/>
  <withfilter name ="NIDSPortScan"/>
</connector>
```

When Secure Socket Layer (SSL) is used for the receiving connection, add the filter to both of the following connections:

```xml
<connector>
  <from name ="eif_receiver"/>
  <to name ="correlation"/>
  <withfilter name ="NIDSPortScan"/>
</connector>
```
See the IBM Tivoli Risk Manager Administrator’s Guide for more information about the use of event filters.

Enabling Tivoli Enterprise Console Event Severity Escalation for Nodes Monitored by the IBM Tivoli Monitoring Product

The Tivoli NetView product can now query IBM Tivoli Monitoring servers for information that can be used to escalate the severity of Tivoli Enterprise Console events for endpoint nodes that are monitored by the IBM Tivoli Monitoring product.

Using the ITMQUERY function, you can query IBM Tivoli Monitoring servers for information about IBM Tivoli Monitoring server endpoints and the services that are installed on these endpoints.

See the Tivoli NetView for UNIX Administrator’s Guide for more information.

Installation Enhancements

The following installation enhancements have been made for version 7.1.4:

- Prerequisite checking now checks for unsupported operating systems and operating system versions before the installation process begins.
- The following options have been added to the instalnv and nvits_config scripts:
  - `-D dbUsername` Displays a Java™-based graphical user interface (GUI) to configure and enable the tdwdaemon daemon, where `dbUsername` is the DB2 local username.
  - `-T` Use the TME® communication method for the IBM Tivoli Enterprise Console server.
  - `-e endpoint` The TME endpoint instance number to use. The default is 1. This option can only be used in conjunction with the `-T` option.
- A new Java-based graphical user interface (GUI) provides the ability to perform the following tasks. This GUI is displayed by the instalnv and nvits_config scripts under the following conditions:
  - If the `-D` option is specified, which indicates that you want to use the Tivoli Enterprise Data Warehouse with the Tivoli NetView product, the GUI displays a dialog that prompts you for the DB2 information. When creating a database, the user ID and password cannot be verified until after the database creation begins. Verify that the user ID and password are correct before proceeding. The tdwdaemon is configured, registered, and started after the database is successfully created. See the Tivoli NetView Warehouse Enablement Pack Implementation Guide, Version 7.1.4 for more information.
- The GUI displays the IBM Tivoli Monitoring window, which provides a way to configure the list of IBM Tivoli Monitoring servers that you want to query, when the following options are specified:
  - The -t or -T option for the instalnv script, which enables event forwarding to the Tivoli Enterprise Console.
  - The -I option for the nvits_config script.

See the *Tivoli NetView for UNIX Administrator’s Guide*, Version 7.1.4 or the usage statements for the instalnv and nvits_config scripts for more information.

- If both the DB2 and IBM Tivoli Monitoring windows are displayed, the Next, Back, Finish, and Cancel buttons are displayed.
- If only one dialog is displayed, the OK and Continue buttons are displayed.

### Web Console Support for Metaconnection Submaps

The Web console has been enhanced to support metaconnection submaps.

A metaconnection symbol represents more than one connection between two symbols or a symbol and a backbone on a submap. For example, suppose a gateway has more than one interface card in the same network. On the IP Internet submap, the connection between the gateway and the network is a metaconnection. This is because the connection symbol between the gateway and the network represents two connections (the two interface cards). When you double-click a metaconnection symbol, the metaconnection submap opens.

The metaconnection submap displays the status of each connection between the two symbols. A metaconnection submap is created when a native console user or an application adds a second connection between two symbols or a symbol and a backbone.

**Note:** You cannot use the Web console to create connections between two symbols. Connections between two symbols must be made using the native console.

### Characteristics of a Metaconnection Submap

A metaconnection submap has the following characteristics:
- Displays all the connections represented by the metaconnection symbol.
- Has a row and column layout unless the connections are between a symbol and a backbone.
- Displays the two end points of the connection in the metaconnection submap for each connection in the submap.

### Behavior of a Metaconnection Submap

You cannot see propagated status for connected symbols. Compound status is different in metaconnection submaps. The metaconnection symbol displays the compound status of the multiple connections in the metaconnection submap. Any unconnected objects in the metaconnection submap also contribute to compound status. However, the connected icon symbol in a metaconnection submap does not propagate their status. Their status is maintained by the symbols in the parent submap above the metaconnection submap.

You can select objects in the metaconnection submap.
Exporting SNMP Performance Data to the Tivoli Enterprise™ Data Warehouse

The Tivoli NetView product together with the Tivoli NetView Warehouse Enablement Pack provides the ability to export SNMP performance data to the Tivoli Enterprise Data Warehouse.

Note: Portions of the DB2 product are packaged with the Tivoli NetView 7.1.4 product for use by the Tivoli NetView warehouse enablement pack. The following Tivoli NetView 7.1.4 license information applies to the use of these portions of the DB2 product:

DB2 COMPONENTS: The Program includes portions of DB2. You are authorized to install and use one copy of these components only in association with your licensed use of IBM Tivoli NetView 7.1.4 for the storage and management of data used and generated by the Program, and not for other data management purposes. For example, this license does not include inbound connections to the database from other applications for queries or report generation. You are authorized to install and use these components only with and on the same workstation as the Program.

The DB2 Components may only be used by Tivoli NetView to store and retrieve data to enable IBM Tivoli Data Warehouse.

Your use of the DB2 components is subject to the terms and conditions of the license agreement which accompany the components except as limited in this license. The DB2 components may not be used for any other purpose. Please contact your DB2 Reseller if your needs exceed this license agreement, to obtain a full license.

The snmpCollect daemon stores SNMP performance data about network nodes in the Tivoli NetView warehouse database, which is the same database that availability data is stored in. The Tivoli NetView Warehouse Enablement Pack adds the AN1_c05_SNMP_ETL1_PROCESS extract, transform, and load (ETL) process to the Tivoli Enterprise Data Warehouse control server, which transforms and stores the performance data in the Tivoli Enterprise Data Warehouse central data warehouse.

The snmpCollect daemon provides this function if the tdwddaemon daemon is configured and registered. The following SNMP data collections are created and activated during a new or upgrade installation of the Tivoli NetView product to provide SNMP performance data about network nodes:

- For the Routers SmartSet: ifInOctets, ifOutOctets, ifInNUcastPkts, ifOutNUcastPkts, ifInDiscards, ifOutDiscards, and inErrRate.
- For the RMON SmartSet: etherStatsOctets, etherStatsMulticastPkts, etherStatsBroadcastPkts, etherStatsCRCAlignErrors, etherStatsFragments, and etherStatsJabbers.
- For all nodes: ifOutUcastPkts.

You should evaluate these collections to ensure that they meet your data collection requirements. From the Tivoli NetView native console, click Tools–>Data Collection and Thresholds: SNMP to invoke the xnmcollect application, to modify one or more of the collections, or for more information about the collections. See "Maintaining New SNMP Data Collections” on page 27 for information about maintaining these collections.
Discovering z/OS® systems

The Tivoli NetView product now discovers z/OS systems that are running the IBM z/OS V1R4 Communications Server TCP/IP stack and its SNMP TCP/IP Subagent.

The Tivoli NetView product currently gathers information from the ibmMvsTcpipProcname (.1.3.6.1.4.1.2.6.19.2.2.2.11) MIB variable. It will also gather information from the ibmMvsSystemName and ibmMvsSysplexName variables when they become available in a program temporary fix (PTF) for V1R4 version of the Communications Server MIB. Contact IBM customer support for more information.

See the IBM Tivoli NetView for UNIX Administrator's Guide for more information.

Support for Compaq Remote Insight Boards and Routers That Contain Network Address Translation Addresses

Networks that contain Compaq remote insight boards (RIB) or devices with network address translation (NAT) addresses cause the netmon, ovtopmd, and owpdb daemons to continually create and delete objects, which can cause a performance problem.

Compaq RIB boards can contain an IP address that is not reflected by the SNMP agent on that machine. Compaq RIB boards contain a separate CPU with its own IP address, but SNMP queries to this address are handled by the SNMP agent on the main device.

When a router contains an IP address that is in a private network, for example, 10.0.0.0 or 198.168.0.0, and that address is translated using a NAT, this causes an IP address to be associated with the device that is not reflected in the SNMP MIB.

The Tivoli NetView, Version 7.1.4 product has been modified to properly work with these IP addresses. The Tivoli NetView product automatically identifies and ignores these addresses. However, if you want to monitor these IP addresses for status, a new option is provided to create separate nodes with a single interface to represent them. These nodes can then be monitored for status as usual. The SNMP sysDescr field is constructed to contain a reference to the SNMP sysName of the main device as follows: sysName:<sysname>.

To set this option, edit the netmon.conf file, uncomment the following statement, and set the following property to TRUE:

NV_NETMON_DISCOVER_RIBB_AND_NATDADDR=TRUE

When you have NV_NETMON_DISCOVER_RIBB_AND_NATDADDR=TRUE configured in the netmon.conf file, NAT addresses on routers are discovered and represented as separate nodes. These nodes are displayed as generic nodes with a single interface that can be used to monitor status. Because the subnet mask of the nodes is unknown, the netmon daemon creates a segment based on the class of the network instead of calculating it from the IP address and subnet mask. This is because NAT addresses are not translated in the SNMP MIBs. If you need to discover these routers (and other downstream devices) with translated addresses, you must use the Tivoli NetView Comprehensive Network Address Translator (CNAT) component.
Using First Failure Data Capture to Resolve Daemon Problems

The first failure data capture (FFDC) function provides a means to collect data after the first failure of a Tivoli NetView daemon. The FFDC subsystem automatically collects and archives necessary data at the time of failure. You can use this information to analyze the problem, or you can send the data archive to IBM customer support.

FFDC function provides extensive tracing and this can affect system performance. Initial network topology discovery can take up to twice as long when the FFDC function is enabled. FFDC tracing also increases processor use for routine post-discovery Tivoli NetView functions. Because initial network topology discovery is performed infrequently and the effect on overall system use is limited, you should have the FFDC function turned on. However, if you want to turn off this function, use one of the following procedures:

To turn off the FFDC function permanently, edit the 
/usr/OV/conf/FFDC/autotrace.properties file and set the following property to TRUE:
NV_AUTOTRACE_DISABLE=TRUE

Use the following procedure to turn the FFDC function off and on for the current Tivoli NetView session. The FFDC function will remain off until the Tivoli NetView product is stopped and restarted.

1. Enter the following command to turn off tracing and check for residual tracing information:
   /usr/OV/bin/atctl off NVD
2. Enter the following command to remove the Tivoli NetView AutoTrace channel 60:
   /usr/OV/bin/atctl remove 60
3. Enter the following command to remove the Tivoli NetView AutoTrace channel 0:
   /usr/OV/bin/atctl remove 0
4. Enter the following command to confirm that the Tivoli NetView AutoTrace function is stopped:
   /usr/OV/bin/atctl v info
5. Enter the following command to turn on the Tivoli NetView AutoTrace function:
   /usr/OV/bin/atctl init /usr/OV/conf/FFDC/autotrace

See the IBM Tivoli NetView for UNIX Administrator’s Guide for more information.

Tivoli NetView for UNIX Library Updates

The IBM Tivoli NetView for UNIX Administrator’s Guide was updated for version 7.1.4. Review it thoroughly before you install or begin to use the Tivoli NetView for UNIX, Version 7.1.4 product.

New Features and Enhancements for Version 7.1.3

This section provides information about new features and enhancements for the Tivoli NetView, Version 7.1.3 product. See “New Features and Enhancements for Version 7.1.2” on page 16 for information about the Tivoli NetView, Version 7.1.2 product.
Web Console Enhancements

The following enhancements were made to the Web console:

Customizing the Web Console Menu
The native NetView console has always supported customization of the menu structure using Application Registration Files (ARF). These ARF files enable you to add menu items to the menu bar. These menu items start a program with context information such as the host names of the selected objects within the native map.

Similar menu item customizations can be made for the NetView Web consoles. This section describes how to configure new menu items to be presented for particular roles. Each menu item that you define must be associated with a program to run when the item is selected. When the new menu item is selected, a URL launch occurs. The URL launch causes the Web server to invoke the program that you have specified with appropriate context information. A web page displays the program output. The output can be displayed either in HTML or plain text.

If the program output is specified to be HTML, the output of the program completely defines what is displayed by the browser. If the program output is specified to be plain text, the output of the program is displayed as a web page in which the stdout command output lines are displayed using the default text color and the stderr command output lines of the program are displayed as red text. To customize the output, modify the following lines in file /usr/OV/www/webapps/netview/ServerAppOutputToXHTML.xsl:

```xml
.stderr { color: red; }
.stdout { color: inherit; }
```

If you want to integrate command line utilities that print results in plain text, define your menu item’s action to use text-based results. If you want to create more visually appealing custom programs, specify that your menu item action uses HTML to display the results (for example, you might want to use HTML tables). Regardless of which approach you take, you can use the OVw environment variables to provide your Web server-launched custom action with appropriate context information.

Examples: This section provides an example of the process you must follow to add new menu items to the Web console menu bar. (This example can also be referenced from file: /usr/OV/prg_samples/webserver_examples/README.)

Use the following procedure to add the following two new menu items for all roles:

- **Object —> Ovobjprint**
  Selecting this item displays the output of the following command for the object that is currently selected in Submap Explorer:
  
  ```bash
  ovobjprint -s <Selection_Name>
  ```

- **Object —> MIB System Group**
  Selecting this item displays the MIB system information for the object that is currently selected in Submap Explorer.

Note: The following example uses the MyActions.xml and MyMenuBar.xml sample files that are provided with the Tivoli NetView product.

1. Copy file MyActions.xml into the NetView webserver directory structure:
   ```bash
   cp /usr/OV/prg_samples/webserver_examples/MyActions.xml
   /usr/OV/www/webapps/netview/warf/MyActions.xml
   ```
2. Either copy MyMenuBar.xml into the NetView webserver template directory with the command:
   
   ```
   cp /usr/OV/prg_samples/webserver_examples/MyMenuBar.xml
   /usr/OV/www/webapps/netview/warf/Templates/WebConsole/
   ```

   or edit file `/usr/OV/www/webapps/netview/warf/Templates/WebConsole/MenuBar.xml` and replace the following lines:

   ```
   <MenuItem name="managementpage">
      <ActionRef xlink:href='Actions.xml#xpointer(id("managementpage"))'/>
   </MenuItem>
   <Separator/>
   <MenuItem name="telnet"><ActionRef xlink:href='Actions.xml#xpointer(id("telnet"))'/></MenuItem>
   ```

   with the following lines:

   ```
   <MenuItem name="managementpage"><ActionRef xlink:href='Actions.xml#xpointer(id("managementpage"))'/></MenuItem>
   <Separator/>
   <MenuItem name="Ovobjprint"><ActionRef xlink:href='MyActions.xml#xpointer(id("launchOvobjprint"))'/></MenuItem>
   <MenuItem name="MIB System"><ActionRef xlink:href='MyActions.xml#xpointer(id("launchMIBSystem"))'/></MenuItem>
   <Separator/>
   <MenuItem name="telnet"><ActionRef xlink:href='Actions.xml#xpointer(id("telnet"))'/></MenuItem>
   ```

   **Note:** The default template files in the templates directory are replaced by new copies during migration. Any changes made to the MenuBar.xml file will be lost after migration. User defined template files will be preserved.

3. Use the Web console Security application to add these two new actions to the roles that you want to contain them.

4. Select **File** —> **Save**.

5. Select **File** —> **Restart Web Server**.


7. Log on using an account configured for one of the roles that contains these new actions.

8. Select **File** —> **Open** to start a new Submap Explorer.

9. Drill down into a segment.

10. Select a node and test the **Ovobjprint** and **MIB System** menu items that are displayed on the **Object** menu.

    **Ovobjprint** launches a Web page that displays the command output and **MIB System** launches a Web page that displays the MIB query results for the MIB values found in the iso.org.dod.internet.mgmt.mib-2.system group.

    **Note:** Ensure that you select nodes that have public community names, because the test application does not check for appropriate community names.

**Usage Notes:**

- Tags and attributes are fixed values and must be written in the correct order.
- The first Val element in the array element acts as a key:
  - The text represented by this Val element must be unique among all `ActionHandlers` named LaunchServerAppHandler in all Actions XML files.
  - Only alphanumeric text can be used.
• Spaces are not allowed.

• The second element in the array must specify the path and name of the executable program. Note that the full path must be specified.

• Any number of Val or Var tags can follow the second element to specify the arguments to be passed to your program. A Var can be any of the following environment variables:
  
  – OVSelectionN (Where N is any value between 1 and 10, for example, OVwSelection1)
  – OVwSelections
  – OVwMenuItem
  – OVwNumSelections
  – OVwActionID

Note: ¹ If the OVwSelections variable is used, it must be the last argument in the array.

• Arguments containing spaces must be placed in a single Val tag. For example, specify Selection Name as: <Val>Selection Name</Val>.

• Arguments separated by spaces must be specified in separate Val tags. For example, specify:
  
  <Val>nvsniffer</Val>
  <Val>-s</Val>
  <Val>-v</Val>
  <Val>-n</Val>

instead of
  
  <Val>nvsniffer -s -v -n</Val>

• To specify a value that contains any of the following characters separated by commas, you must wrap them in a CDATA section to avoid having them parsed as XML characters: >, <, &, " , '. See the MyActions.xml file for examples.

• The ActionHandler can have the attribute output set to HTML. This attribute indicates that the program output is already in HTML format and no formatting needs to be performed. If this attribute is not specified, the program results are wrapped with HTML tags, so that output from the stdout command is displayed in the default text color and output from the stderr command is displayed in red. Note that the MyActions.xml file provides an example of both cases:
  
  – The output of the launchOvobjprint action is automatically HTML wrapped by applying the ServerAppOutputToXHTML.xsl style sheet.
  – The output of the launchMIBSystem action is not wrapped because it is assumed that this program generates HTML output.

Additional Information:

• The files in the /usr/OV/www/webapps/netview/warf directory are called Web application registration files (WARF) and are similar to NetView application registration files (ARF). WARF files provide a NameField attribute that is similar to the NameField attribute defined in NetView ARFs. This attribute contains a comma-separated list of OVwDb name fields that are considered when performing a launch. For example, if you want to enable launching of your own ping command for nodes and interfaces, you can use the following AIX-based version:

<Action id="launchMyPing" securityConstraint="RelaxedAccess"
  roles="Administrator,Operator,SuperUser,User">
  <Name>My Ping</Name>
  <ShortDescription>My Ping</ShortDescription>
<LongDescription>URL launch My Ping</LongDescription>

<SelectionRule minSelected="1" nameField="IP Hostname, IP Address"
expr="isNode OR isInterface" />

<ActionHandler name="LaunchServerAppHandler">
  <Method>
    <MethodName>com.tivoli.netview.client.NetViewApplet.launchServerApp</MethodName>
    <ArgList>
      <Val>
        <Array>
          <Val>myping</Val>
          <Val>ping</Val>
          <Val>-c</Val>
          <Val>3</Val>
          <Var>OVwSelection1</Var>
        </Array>
      </Val>
    </ArgList>
  </Method>
</ActionHandler>

Note that this action assigns a value to the OVwSelection1 variable using the following criteria in the order listed:

1. If the object contains the IP Hostname field, then set the OVwSelection1 variable to the value of this IP Hostname field.
2. If the object contains the IP Address field, then set the OVwSelection1 variable to the value of this IP Address field.
3. Set the OVwSelection1 variable to the object's Selection Name field value.

- The WARF expr attribute is similar to the ARF SelectionRule attribute. Each menu item in the Web console can contain an expr to dynamically determine whether the menu item should be enabled. The /usr/OV/www/webapps/netview/warf/Actions.xml file provides examples. If present, the expr attribute automatically provides the diamond shape icon to the menu item to indicate that the menu item is context-sensitive for the objects currently selected in Submap Explorer.
- The roles attribute is used by the security console to list actions for particular roles. If you define a new action that contains a roles attribute, you do not have to go into each Role in the Security Console to explicitly add the action. Instead, start the Security Console and click File —> Save and then File —> Restart Web Server to add the new action to all the specified Roles.

Debugging a Custom Menu Item: This section provides information about writing debugging information to the /usr/OV/www/logs/netviewservlets.log file. Use the following process to help debug your custom menu item.

1. Stop the Web server.
2. Edit the /usr/OV/www/classes/log4j.properties file as follows:
   - Add the following statement to write the command that is issued by your custom menu item to the log:
     
     log4j.category.com.tivoli.netview.server.LaunchServerAppOutputGenerator=DEBUG

     For example, if you click Object —> Ovobjprint for an object named winston, the /usr/OV/www/logs/netviewservlets.log file would contain the following entry:
     
     cmd to run is '/usr/OV/bin/ovobjprint -s winston.us.corp.com'
   - Add the following lines to write the output of your custom menu item to the log:

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3. Restart the Web server for the logging statements to take effect.

4. Use your custom menu item.

5. Review the information that was written to the

6. When you are finished, either comment out or remove the lines that you have
   added to avoid filling the netviewservlets.log file.

**Enhanced Web Console Daemon Configuration**
The Web console daemons can be configured using the Enable Web Daemons
window of the Server Setup application. From the Server Setup menu, click
Configure —> Configure Web Server —> Enable Web Daemons to display the
Enable Web Daemons window. See Figure 1 on page 14 for an example of the
window.

Use this window to perform the following tasks:
• Enable the webserver daemon and configure its port.
• Enable Secure Socket Layer (SSL) security for the Web console and configure its
   port. See "Enhanced NetView Web Console Security using Secure Socket Layer" for
   more information.
• Enable the snmpserver daemon.
• Enable the netviewd daemon.

**Note:** SSL is not supported in the applet version of the Web console from a Web
browser.

**Enhanced NetView Web Console Security using Secure Socket Layer**
This section contains information about enabling and disabling SSL.

**Enabling SSL:** Use the following procedure to enable SSL:
1. Stop any Web consoles that are running.
2. From the Server Setup menu click Configure —> Configure Web Server —> Enable Web Daemons. The following screen is displayed:
3. Verify that yes is displayed on the Enable webservice daemon button and that the correct port number is displayed. If no is displayed, select yes from the list.

4. Select yes from the Enable SSL for Secure Web Server Communications list.

5. Verify that you want to use the default port number that is specified. Specify a different port number if you do not want to use the default value.

6. Click either OK or Apply.

7. Stop and restart the Web server daemon.

**Note:** After logging on to the Web console using port 8080 with SSL enabled, https://server:8443 instead of http://server:8080 is displayed (where server is the name of the server).

Disabling SSL: Use the following procedure to disable SSL:

1. Stop any Web consoles that are running.

2. From Server Setup click Configure —> Configure Web Server —> Enable Web Daemons.

3. Select no from the Enable SSL For Secure Web Server Communications list.

4. Click either OK or Apply.

5. Stop and restart the Web Server daemon.

**Web Console Task Assistant**

The Task Assistant provides task-specific online help for the Web console.

The Task Assistant is started automatically when you start the Web console. You can either detach the window, or close it. If you have closed the window, or if you are running from the applet, click Help —> Open Task Assistant from the main menu bar to open the Task Assistant.
Use the Detach icon in the upper right corner of the Task Assistant panel to detach the panel from the Web console window. Once detached, the Detach icon changes to a Reattach icon. Note that when you open a Web console window, the Task Assistant uses the configuration (detached, attached, or closed) that was set in your last Web console.

To use the Task Assistant, click either the Table of Contents or Index button from the Task Assistant toolbar. You can also access task-related help by clicking the question mark (?) icon available in the following windows:

- Submap Explorer
- Diagnostics
- Object Properties
- Event Browser
- Event Filter
- MIB Browser
- Server Status

Note: If the Web console is accessed through an applet, the Task Assistant is displayed in an external browser window and Netscape Version 6 is required. For Windows, Internet Explorer Version 5.5 or higher can also be used.

**Web Console MIB Browser Enhancements**

The Web console MIB Browser has been enhanced as follows:

- You can now request SNMP walks for MIB tables that cannot be displayed. If a table cannot be displayed in a table format, click **Walk** to display the information.

- The procedure that you use to graph MIB values displayed in a table column has changed:
  1. Click **Graph**.
  2. Select the row from the list of MIBs that can be graphed.
  3. Click **Graph**. The Graph window is displayed.
  4. All MIB values are graphed by default. If you want to choose which MIB values are graphed, click **Filter** and select the MIB values that you want to graph.
  5. Click **Start** to begin graphing.

**Revised Tivoli Enterprise Console Integration for Version 7.1.3**

Enhanced integration between Tivoli NetView and IBM Tivoli Enterprise Console was introduced in Tivoli NetView for UNIX, Version 7.1.2 (with Tivoli Enterprise Console 3.7.1 fix pack 02). An updated version of the Tivoli Enterprise Console netview.rls rule set (the rule set which provides special event correlation for NetView TEC_ITS events) was included with Tivoli NetView for UNIX, Version 7.1.2. This rule set file is not included with Version 7.1.3, because it is included with Tivoli Enterprise Console 3.8, and it is active by default.

Note: If you are upgrading from Tivoli NetView for UNIX, Version 7.1.2 and you have already upgraded and configured the Tivoli Enterprise Console files, you do not need to perform any additional tasks when you upgrade to version 7.1.4.

For more information about the enhanced integration:

- See "Enhanced Tivoli Enterprise Console Integration" on page 16 in the “New Features and Enhancements for Version 7.1.2” section below.
• See the “Synchronization and Correlation with the NetView Integrated TCP/IP Services Component” chapter in the IBM Tivoli Enterprise Console Rule Builder’s Guide, Version 3.8.


Propagation of Unreachable Status

The propagation of Unreachable status has been changed. Previously, child objects with Unreachable status were ignored when determining the status of a parent object unless the status of all objects on a submap were Unreachable. The algorithm for determining marginal status has been changed so that if at least one child object has normal status and the status of at least one other child object is either Down, Marginal, or Unreachable the parent object’s status is Marginal.

For example, if a location submap contains two objects with Normal status and one object with Unreachable status, the status of the parent location object will now be Marginal, instead of Normal.

Note that the algorithm for determining Unreachable status is unchanged; that is, all child objects must be Unreachable for a parent object’s status to be Unreachable.

New netmon Trace Option

The netmon daemon now deletes the netmon.trace.old file (if one exists) before attempting to rename the full netmon.trace file to the same name. By default, the number of entries allowed in the netmon.trace file before the file wraps to the netmon.trace.old file is 100 000. A new option, -e MAXCOUNT, enables you to change the number of entries that are written to the netmon.trace file before it wraps.

For example, the following procedure changes the wrap count to 200 000:

1. Edit the netmon.lrf file.
2. Add the following option: -e 200000
3. Issue the following commands:
   ovstop netmon
   ovaddobj /usr/OV/lrf/netmon.lrf
   ovstart netmon

New Features and Enhancements for Version 7.1.2

This section provides information about new features and enhancements for Tivoli NetView for UNIX, Version 7.1.2. All information in this section is also applicable to Tivoli NetView for UNIX, Version 7.1.3. See “New Features and Enhancements for Version 7.1.3” on page 8 for more information.

Enhanced Tivoli Enterprise Console Integration

The integration between Tivoli NetView and the Tivoli Enterprise Console has been enhanced to provide automatic event correlation for a default set of finely-tuned network events. This substantially improves the ability of event console operators to find the root cause of network-related problems, and provides automatic housekeeping by clearing obsolete network status events.

See the Tivoli NetView for UNIX Administrator’s Guide, Version 7.1.4 for more information.
Installation and Configuration Considerations

The following scripts enable you to easily configure integration with the Tivoli Enterprise Console server during or after installing the Tivoli NetView product.

- The new options to the `instalnv` script enable you to configure event forwarding to a Tivoli Enterprise Console server during the installation.
- Run the `nvits_config` script to configure event forwarding to a Tivoli Enterprise Console server after a new installation using the Tivoli Framework.
- The `tecits_upgrade` script enables you to upgrade to the new TEC_ITS event class structure at any time after a Tivoli NetView upgrade installation.

New instalnv Script Options

During a new installation of Tivoli NetView for UNIX, Version 7.1.2, you have the option of configuring events to be forwarded to a Tivoli Enterprise Console server.

This section describes the new installation options that have been added to the `instalnv` script. These options can be used to configure event forwarding to the Tivoli Enterprise Console during the installation of the Tivoli NetView program. These options can be used only during a new installation.

Usage:

```
instalnv -k KIT [-d b/a/l] [-c "name1 name2 name3 ... name6"] [-t serverName [-p port] [-w]] [-h]
```

Where:

- **-k KIT**
  Specifies the kit to install: SERVER, CLIENT, BOOKS. Note that CLIENT is not available on Linux.

- **-d b/a/l**
  Specifies the discovery mode as follows:
  - **b** Backbone-only
  - **a** All networks
  - **l** Local subnet only

  This parameter is optional. The default value is l (Local Subnet Only).

- **-c “name1 name2 name3 ... name6”**
  Specifies a list of up to six community names used for network discovery. The community names must be separated by spaces and enclosed by double quotation marks. This parameter is optional but if it is not specified, discovery might be limited if community names other than public are in use.

- **-t serverName**
  The name of the Tivoli Enterprise Console server to which events are being forwarded. This parameter is optional.

- **-p port**
  Specifies the port to be used for communication with the Tivoli Enterprise Console server. This parameter is optional. It is necessary to specify this parameter only if the port has been customized, otherwise the default value (5529 for a Windows Tivoli Enterprise Console server, 0 for a UNIX Tivoli Enterprise Console server) is used.

- **-w**
  Indicates that the Tivoli Enterprise Console server specified with the -t
An option is a Microsoft Windows machine. This option must be specified for a Windows Tivoli Enterprise Console server, otherwise the port will not be configured correctly.

-h Displays the usage statement.

This script does the following:
- Turns on event forwarding to the specified Tivoli Enterprise Console server.
- Sets the discovery mode as specified. The default value is Local Subnet Only.
- Adds the specified list of Alternate Community Names (for example, -c “name1 name2 name3”) to the /usr/OV/conf/communityNames.conf file.

Using the nvits_config Script

The nvits_config script should be run on the Tivoli NetView server machine after a new installation of Tivoli NetView for UNIX using the Tivoli Framework installation method. This script does not need to be run if the installnv script was used to install Tivoli NetView. This script is provided to enable configuration of Tivoli NetView for UNIX with a Tivoli Enterprise Console server.

`/usr/OV/bin/nvits_config [-t serverName] [-w] [-p port] [-c "name1 name2 name3 ... name6"] [-d b/a/l] [-h]`

Where:
-t serverName
The name of the Tivoli Enterprise Console server to which events are being forwarded. This parameter is optional.
-w
Indicates that the Tivoli Enterprise Console server specified with the -t option is a Microsoft Windows machine. This option must be specified for a Windows Tivoli Enterprise Console server, otherwise the port will not be configured correctly.
-p port
Specifies the port to be used for communication with the Tivoli Enterprise Console server. This parameter is optional. It is necessary to specify this parameter only if the port has been customized, otherwise the default value (5529 for a Windows Tivoli Enterprise Console server, 0 for a UNIX Tivoli Enterprise Console server) is used.
-c "name1 name2 name3 ... name6"
Specifies a list of up to six community names used for network discovery. The community names must be separated by spaces and enclosed by double quotation marks. This parameter is optional, but if it is not specified, discovery might be limited if community names other than public are in use.
-d b/a/l
Specifies the discovery mode as follows:
- b Backbone-only
- a All networks
- l Local subnet only

This parameter is optional. The default is Local Subnet Only.
-h Displays the usage statement.

This script does the following:
- Turns on event forwarding to the specified Tivoli Enterprise Console server.
• Sets the discovery mode as specified. The default value is Local Subnet Only.

**Note:** This option clears the databases and restarts discovery. Do not use this script after an upgrade installation.

• Adds the specified list of Alternate Community Names (for example, `-c “name1 name2 name3”`) to the `/usr/OV/conf/communityNames.conf` file.

### Tivoli Enterprise Console Server Compatibility

If you are forwarding events from Tivoli NetView to a version of the Tivoli Enterprise Console that is earlier than version 3.7, you must set the `Pre37Server` flag to `YES` in the `/usr/OV/conf/tecint.conf` file by adding the entry `Pre37Server=YES`. You must stop and restart the `nvserverd` daemon after adding this flag. Use either the `ovstop` and `ovstart` commands or Server Setup to stop and restart the daemon.

### New Variable Bindings for Tivoli NetView Traps

New variable bindings (varbinds) have been added to the following Tivoli NetView traps:

• Subnet Unreachable and Subnet Reachable Again events - varbind 7 will contain the network address of the subnet and varbind 8 will contain the subnet mask.

• All interface events - varbind 7 will contain the IP address of the interface and varbind 8 will contain the interface object ID. This is used to uniquely identify the interface on a given node.

• All node events - varbind 7 is empty (unused) and varbind 8 will contain a comma-separated list of the IP addresses of all the interfaces on the node.

• All router events - varbind 7 and 8 are unused.

• All Layer 2 Status events - varbind 7 is empty (unused), varbind 8 is empty (unused), varbind 9 contains the subnet IP address, and varbind 10 contains the subnet mask.


### New NetView Traps

Three traps have been added for Layer 2 events. These are applicable for systems that have the IBM Tivoli Switch Analyzer installed.

Eight Tivoli NetView Comprehensive Network Address Translator-related traps are now installed with Tivoli NetView by default (formerly installed by the Tivoli NetView Comprehensive Network Address Translator Extensions add-on function from the Tivoli Comprehensive Network Address Translator CD).


### Web Console Security Enhancement

**Passwords**

In Tivoli NetView Version 7.1.1, user IDs and passwords were stored in plain text in the `NetViewRealm.properties` file. Starting with version 7.1.2, passwords are not stored in plain text.
**Web Console Enhancements**

**Submap Explorer**
The Submap Explorer now displays connections and backbones in the Unreachable color when the containing network is Unreachable, and provides new telnet functionality. The Submap Explorer will also provide Layer 2 information if the optional Tivoli Switch Analyzer is installed on the server.

- **Layer 2 Information.** The System Configuration View now contains a Layer 2 Status column. This column displays information only when the Tivoli Switch Analyzer is installed on the Tivoli NetView server machine.
- **New Connection Color for Unreachable.** When displaying submaps that are parented by Unreachable networks, all connections and backbones are now drawn with the Unreachable color.
- **Telnet Command.** The `telnet` command is now available from the Object option in the main menu and from an object’s pop-up menu in the Tivoli NetView Web console application. It is not available when the Web console is run as an applet. Note that you can attempt to use telnet to communicate with any node, but typically only UNIX nodes have a telnet service available.

**Object Properties**
Object Properties now provides Layer 2 status, new interface icons, new interface health information and new service status information. This version of Object Properties also enables you to quickly determine whether a node is in an Unreachable area (either by looking at the interface health information or by looking at the new icons that are displayed in the interface table).

- **Layer 2 Status.** The **Other** tab of the Object Properties window now displays the Layer 2 status (currently meaningful only for switches). This column is populated only when the Tivoli Switch Analyzer is installed on the Tivoli NetView server machine.
- **Interface Icons.** The interface table now shows an icon for each interface. The center of each interface icon is drawn in the Unreachable color when the status of an interface’s associated network is Unreachable.
- **Interface Health.** The Interface Health shows the percentage health for a node’s interfaces.
- **New Service Table.** The service table displays the last known services available for the target node and, if any of these services are currently in a Down state, the time of failure is also displayed. These services are the services that the nvsniffer program has been configured to discover and monitor.

**Diagnostics: QuickTest and QuickTest Critical**
Diagnostics QuickTest and QuickTest Critical now provide new Interface icons and results information to enable you to know whether the node being tested is within an Unreachable area.

- **Interface Icons.** The center of each interface icon is now drawn in the Unreachable color when the status of an interface’s associated network is Unreachable.
- **Results Column.** The Results column now contains text about networks with Unreachable status when a QuickTest or QuickTest Critical test is performed for an interface associated with the network.

**Web Console MIB Browser Enhancements**
This section provides information about enhancements made to the Web console MIB Browser.
**Viewing MIB Table Information:** To view the information for a particular row of the table (for a particular MIB instance), select a cell in the row. The View button is enabled. Click View to display the data.

**Graphing MIB Table Information:** To graph the MIB values for a particular column of a table (the values for all or some of the MIB instances), select a cell in the column. If the data for that column can be graphed, the column is highlighted and the Graph button is available. Click Graph to graph the data.

**Filtering the MIB Browser Graph:** When you graph a MIB table column, the graph initially displays all the values for all the MIB instances (all the rows in the table) when you click Start. You can stop the graphing by clicking Stop. Once graphing stops, you can request to filter the graph by clicking Filter. You are presented with a list of the instances being graphed and can select which elements in the list to graph.

Like other lists in the Web console, you can select elements from the list by clicking the left mouse key combined with using the <Shift> and <Ctrl> keys. After marking the instances you want to graph, click Graph to begin graphing for just the selected instances.

**New Timeout window:** A new window displays possible community names or host names that are not valid.

**Improved Performance of Timeouts and Wait Cursors:** The performance of timeouts and wait cursors has been improved.

**MIB Browser Refresh Processing with AIX® Server:** Due to timing issues and processing by underlying packages used by the Tivoli NetView product, using the MIB Browser’s main refresh option on the AIX operating system might generate exceptions which are written in the netviewservlets.log file on the server. These exceptions do not interfere with any processing and can be ignored.

This mainly occurs when the refresh is done in the middle of walking the MIB tree. The same thing might be noticed if you close the MIB Browser while walking the MIB tree.

These exceptions are not displayed on the client side unless client-side debugging is turned on. With SNMP debug on, users might see HTTPProxyExceptions.

Examples of exceptions on the server side are:


**Note:** When you are graphing dynamic tables (such as the ipForwardTable), if entries are removed while graphing is active, you will see warning messages in the log. Also, when you refresh dynamic tables, you might see different rows than before.
Router Fault Isolation (RFI) Enhancements

The Router Fault Isolation (RFI) function has been enhanced in three areas:

- To reduce the false signals from a Node Down event for a device in an area with Unreachable status, the Tivoli NetView product does not generate Node Down events for any node in the area with Unreachable status.

- In previous versions, the RFI implementation was such that if there was a back door to the subnet through a router that the Tivoli NetView product had not discovered, then the status of the subnet could be declared Unreachable when it was not. This resulted in the subnet often toggling between Unreachable and Marginal status. The function has been changed in this release to reduce the chances of a reachable subnet being given Unreachable status.

- If the Tivoli NetView product is not managing any routers in a particular subnet, the Tivoli NetView product can now determine when that subnet is unreachable. It does this using a probabilistic algorithm, which determines when it is highly likely that the subnet is unreachable.

See the Tivoli NetView for UNIX Administrator's Guide for more information.

RFI Configuration

There are three modes for RFI that can be configured:

- Disabled
- Router Fault Isolation Mode
- Probabilistic Mode

See the Tivoli NetView for UNIX Administrator's Guide for more information.

New netmon.conf Configuration File

This new configuration file for the netmon daemon is in the /usr/OV/conf directory. Use this file instead of setting environment variables for the netmon daemon. The values in this file will override any environment variables that are set.

This file also contains configuration properties for the Probabilistic Reachability algorithm.

By default, all properties are commented out, except for the new reachability properties. To use a property, uncomment it and set the property as preferred, and restart the netmon daemon.

Status Update Request

A new script, nvstatusrequest, enables you to prompt the Tivoli NetView product to update the status of a device. The Tivoli NetView product uses the appropriate status mode, SNMP or ICMP, to immediately poll all the interfaces on the device, and then update the map as necessary.

Applications residing on the Tivoli NetView management station can be configured to automatically start this script when they learn of a new status for a device. Using this script, applications can force the Tivoli NetView product to reflect the new status without waiting for the regular status poll cycle. Applications that do not reside on the Tivoli NetView management station can use the contents of this script to determine how to send an SNMP trap to the Tivoli NetView product to force a status poll without waiting for the regular status poll cycle.

Use the nvstatusrequest script as follows:
The following command line interface (CLI) utility, named `nvmaputil`, has been added for customers to do some limited management from the command line. This utility provides the ability to dynamically modify a NetView map without recycling the netviewd daemon and all its connected Web console Submap Explorers. In addition, this utility enables visibility into which machines are in-scope for the Scopes defined for Web server account access. See the *Tivoli NetView for UNIX Administrator’s Guide* for more information.

**Cisco Devices SmartSet**

A new CiscoDevices SmartSet is created by default during a new UNIX installation.

**Updates to oid_to_type**

The `oid_to_type` file has been updated with the most current OID information from device vendors.

**SNMP Collections**

Two new SNMP data collections are added during a new UNIX installation: Bandwidth Utilization for Routers (BandwidthUtilHdx) and CPU Utilization for Cisco Devices (avgBusy5). These collections are turned off by default. To activate these collections, click Tools —> Data Collections and Thresholds: SNMP from the native console.

**Layer 2 Analysis Option Added to ovtopodump Utility**

As a supplement to the Tivoli Switch Analyzer product, a new option (-X) has been added to the `ovtopodump` utility for assessing all Layer 2 devices stored in the topology database. Use this option to help determine why certain nodes are (or are not) considered to be Layer 2 nodes by the Tivoli Switch Analyzer product.

See the *Tivoli Switch Analyzer Release Notes* for more information.

**Java Runtime Environments**

The following operating systems were upgraded to JRE 1.3.1:

- AIX
- The Solaris Operating Environment (hereinafter referred to as Solaris)
- Linux Intel™
- Linux for zSeries®
### Supported Operating Systems

- AIX: V4.3.3 (Maintenance Level 09)
- AIX: V5.1 (Maintenance Level 01)
- AIX: V5.2
- Solaris: V2.8, V2.9 (with all Sun-required patches)
- Linux Intel:
  - RedHat Version 7.2 (2.4.7-10 kernel)
  - RedHat Advanced Server Version 2.1
  - SuSE Version 7.2 (2.4.4-4GB kernel)
  - United Linux Version 1.0
- Linux for zSeries:
  - RedHat Version 7.2
  - SuSE Linux Enterprise Server 7.2 For S/390® and zSeries (SLES 7)
  - United Linux Version 1.0

**Note:** The Tivoli NetView product is not supported on 64-bit Linux for zSeries systems.

### System Requirements

The system requirements for Tivoli NetView, Version 7.1.4 are the same as those described in the installation and system requirements sections of the Tivoli NetView Release Notes, Version 7.1 with the following exceptions:

**Required Upgrade Installation Patches**

Before performing an upgrade installation from Tivoli NetView Version 7.1, 7.1.1, 7.1.2, or 7.1.3 to Tivoli NetView, Version 7.1.4 on Solaris or Linux operating systems, you must install an interim fix. If this interim fix is not installed, the upgrade installation will fail. You can perform the upgrade installation after the interim fix has been installed successfully. The following files for the interim fix are located in the INTERIMFIX/MIGRATION directory on the product CD:

**Table 1. Required Upgrade Installation Patches**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Interim Fix File Name</th>
<th>Interim Fix Readme File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solaris</td>
<td>Migration.sunOS.V714.tar.Z</td>
<td>Migration.sunOS.V714.README</td>
</tr>
<tr>
<td>Linux for zSeries</td>
<td>Migration.zLinux.V714.tar.Z</td>
<td>Migration.zLinux.V714.README</td>
</tr>
</tbody>
</table>

See the readme files for instructions about how to install the patch.

**Upgrade Restriction**

Tivoli NetView, Version 5 is no longer supported. Users still running version 5 must upgrade to version 6 prior to upgrading to version 7.

**System Hardware and Tuning Recommendations**

See Appendix A, “Hardware, Memory, and Tuning Recommendations”, on page 59 for updated information about system hardware and tuning recommendations. This information is the most current information and supersedes information in...
Appendix A, “Memory, Paging Space, Tuning, and Sizing Considerations” in the
Tivoli NetView for UNIX Configuration Guide.

AIX Software Prerequisites
The Tivoli NetView for UNIX, Version 7.1.4 program requires that AIX 4.3.3 systems have the Maintenance Level 4330-10 installed.

The Tivoli NetView for UNIX, Version 7.1.4 program requires that AIX 5.1 systems have the X11.compat package (X11R5) and Maintenance Level 5100-01 installed.

The Tivoli NetView for UNIX, Version 7.1.4 program requires that AIX 5.2 systems have the X11.compat package (X11R5) installed.

Linux Hardware Prerequisites
- A 450 MHz Intel Pentium® or faster
- IBM S/390 Generation 5 or newer processor
- 512 MB of system memory
- 1 GB of swap space
- 500 MB of file system space for the Tivoli NetView program
- 500 MB of file system space for the network database
- Minimum video requirements
  - Configure the display to use 24 bit color.
  - Minimum resolution must be 1280x1024.

Linux Software Prerequisites
The following packages must be installed on Linux systems:
- binutils
- inetd
- ucd-snmpd (RedHat rpm¹ is ucd-snmp, SuSE rpm is ucdsnmp) (Version 4.2.2 or higher)
- Xvfb (RedHat rpm is XF86-xvfb, SuSE rpm is xextra)
- pdksh (pdksh-5.2.14-8.i386.rpm or pdksh-5.2.14-248.s390.rpm must be installed from the RPM package provided on the version 7.1.4 installation CD)
- glibc-2.2.4-31 is required on SLES 7.
- Netscape Version 6 is required for correct operation of the Web console Task Assistant running through an applet. The application version of the Task Assistant does not use the Netscape product.
- The Netscape product is required for correct operation of the online help
- KDE Version 3 is required for Language Kit support.
- The Konqueror product is required on zSeries operating systems.

The following Tivoli Management Framework patches are required for endpoint adapters on zLinux:
- Patch 99 for version 3.7.1
- Patch 14 for version 4.1

Note that these patches must be applied to the systems on which the Tivoli Enterprise Console server and the Tivoli NetView server are installed.
Notes:
1. \(^1\) rpm = Red Hat Package Manager. See the man pages for more information about rpm.
2. Linux running on Intel operating systems was tested on SuSE using KDE Version 2.1.2 and on Red Hat using the version of GNOME that is shipped with Red Hat Version 7.2.

Web Console System Requirements
The following hardware requirements apply to systems on which a Web console is installed:

Table 2. Web Console System Hardware Requirements

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Minimum</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>450 MHz</td>
<td>1GHz</td>
</tr>
<tr>
<td>Memory</td>
<td>256 MB RAM</td>
<td>512 MB RAM</td>
</tr>
<tr>
<td>Hard disk space</td>
<td>35 MB ¹</td>
<td>35 MB ¹</td>
</tr>
</tbody>
</table>

Note: ¹ An additional 30 MB of temporary hard disk space is required during the installation.

If you install Netscape 7 with the Java 1.4 plug-in, use the Web console thin client, because the Web console applet requires the Java 1.3 plug-in. See the Tivoli NetView Release Notes, Version 7.1 for more information about the thin clients.

Netscape Version 6 is required for correct operation of the Web console Task Assistant when the Web console is accessed through an applet.

Installation and Uninstallation Notes
The Tivoli NetView for UNIX, Version 7.1.4 program is a full image, and can either be a new installation, or an upgrade from previous versions of the Tivoli NetView for UNIX program (including Tivoli NetView for UNIX, Version 7.1). The installation instructions on all UNIX systems for Tivoli NetView for UNIX, Version 7.1.4 are identical to those described in the section “Installing the NetView Program on UNIX” in the Tivoli NetView Release Notes, Version 7.1, with the exception of the Linux Intel platform.

On the AIX operating system, the required English locale has been changed to en_US for the Tivoli NetView product. You must set the LANG and LC_MESSAGES environment variables to this locale before you install the Tivoli NetView product.

Before performing an upgrade installation, you must remove or rename any existing /usr/OV.back.v7r1 directories from previous upgrades of any Version 7.x release. If you do not delete or rename the directories, the upgrade installation will fail and the following error message will be written in the /tmp/NVS_714_BIN_before.output log file to prevent you from inadvertently using an old /usr/OV.back.v7r1 directory from a previous version of the Tivoli NetView product during migration:

"The contents of the /usr/OV and the /usr/OV backup directory are different. Remove one or the other before attempting to migrate"
This problem will not occur if you create a custom /usr/OV.back.v7r1 directory from your current V7.x version of the Tivoli NetView product using the Server Setup application or the nvp.v7r1 backup utility prior to performing an upgrade installation to the Tivoli NetView, Version 7.1.4 product.

If you upgrade a Server installation, IBM recommends that you perform the following procedure on all machines that previously ran the Web console applet that was connected to an older version of the Web server:

1. Display the Java Plug-in Control Panel as follows:
   a. For Windows operating systems, double-click the Java Plug-in 1.3.1 icon in the Windows Control Panel.
   b. For UNIX systems, run the JavaPluginControlPanel or ControlPanel executable in the bin or jre/bin directory under the directory where the 1.3.1 JRE is installed. On AIX operating systems, by default the JRE is installed in /usr/java131. On Linux and Solaris, find the directory named either IBMJava2-131 or j2re1.3.1_*.
2. From the Java Plug-in Control Panel, click the Cache tab.
3. Click Clear JAR Cache.

Maintaining New SNMP Data Collections

The new SNMP data collections for the Routers and RMON SmartSets that are created during a new or upgrade installation of the Tivoli NetView product are activated by default. Over time, these collections, which are stored in the /usr/OV/databases/snmpCollect directory in addition to being stored in the Tivoli NetView Warehouse database if the tdwdaemon is configured, continue to acquire disk space on the local Tivoli NetView system. To maintain adequate disk space, clear the snmpCollect database periodically using the Maintain->Clear Databases->Clear snmpCollect database option in the Server Setup application.

If you do not want these collections to be active, you can suspend them using the xnmcollect application. From the Tivoli NetView native console, select Tools->Data Collection and Thresholds: SNMP to start the xnmcollect application. Note that after suspending one or more collections in the xnmcollect application, you must click Apply for this action to take effect.

See “Exporting SNMP Performance Data to the Tivoli Enterprise™ Data Warehouse” on page 6 for more information.

Disabling Export of SNMP Performance Data

If you have tdwdaemon registered to export availability data, but you do not want SNMP performance data exported, you can turn this feature off. To do this, use the following procedure:

1. Enter the following command:
   /usr/0V/bin/ovstop snmpCollect
2. Edit the /usr/0V/lrf/snmpCol.lrf file and remove the -w option from the second line of the file.
3. Enter the following commands:
   /usr/0V/bin/ovaddobj /usr/0V/lrf/snmpCol.lrf
   /usr/0V/bin/ovstart snmpCollect

After performing this procedure, the snmpCollect daemon does not store SNMP collection data in the Tivoli NetView warehouse database. However, the
snmpCollect daemon continues to collect data for all active SNMP data collections and stores this data in the /usr/OV/databases/snmpCollect directory.

Integration of the Tivoli Switch Analyzer and Tivoli NetView Products

If you have the IBM Tivoli Switch Analyzer, Version 1.2.1, productr installed and you are forwarding events to the Tivoli Enterprise Console, you must update the Tivoli Switch Analyzer event definitions in the Tivoli NetView product. This update modifies the slot mappings to include the saticketnumber, which facilitates the Tivoli Enterprise Console rules correlation of the Tivoli Switch Analyzer events that refer to the same fault. This update also sets the severity slot to Critical for Tivoli Switch Analyzer Node Down, Node Marginal, and Interface Down events. Use the following procedure to apply the update:

1. Mount the installation media for the Tivoli NetView 7.1.4 product.
2. Enter the following command to change to the
   /cdrom/INTERIMFIX/SWITCHANALYZER directory:
   ```bash
cd /cdrom/INTERIMFIX/SWITCHANALYZER
```
   Where cdrom is the top-level directory of the Tivoli NetView, Version 7.1.4 CD-ROM or other installation media.
3. Enter the following command to stop the Tivoli NetView daemons:
   ```bash
   /usr/OV/bin/ovstop
   ```
4. Enter the following command to update the trap definitions:
   ```bash
   ./add_traps.sh
   ```
5. Enter the following command to start the Tivoli NetView daemons:
   ```bash
   /usr/OV/bin/ovstart
   ```

Varbind 8 Change for Interface Events

Varbind 8 now contains the interface object ID instead of the interface label. This change was made to guarantee that the Tivoli Enterprise Console ifName attribute for which varbind 8 is mapped is unique. This ensures that the Tivoli Enterprise Console interface events are properly cleared by the interface rules within the NetView Tivoli Enterprise Console netview.rls rules base. If you use this rules base, you must perform the following tasks:

- Manually clear all preexisting Tivoli Enterprise Console interface events, because the ifName attribute on new events will not match any of the preexisting events.
- Evaluate the effect of this change on any custom Tivoli NetView event rule sets that use varbind 8 for interface events and change the rule set as appropriate.

Memory Prerequisite Checking

The memory requirements of the Tivoli NetView program have increased: a minimum of 256 Megabytes of memory is required. However, 512 Megabytes of memory is recommended for efficient operation. The memory prerequisite checking function ensures that a sufficient amount of memory is available before installation begins. If more than 512 megabytes is available, no error message is displayed and the installation process continues. If less than 512 megabytes of memory is available, an error message is displayed as follows:
Table 3. Memory Prerequisite Checking

<table>
<thead>
<tr>
<th>Amount of Available Memory</th>
<th>Result</th>
<th>Message Displayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 256 megabytes</td>
<td>The installation fails.</td>
<td>ERROR: There is not enough memory on the system to run Tivoli NetView. This system has 128 Megabytes of memory. A total of 256 Megabytes of memory is needed to run NetView. You need 128 more Megabytes of memory.</td>
</tr>
<tr>
<td>Between 256 megabytes and 512 megabytes</td>
<td>The installation proceeds.</td>
<td>WARNING: Although this system does satisfy the minimum required amount of memory to install NetView it does not meet the recommended amount of 512 Megabytes of memory needed for efficient operation of the NetView system</td>
</tr>
</tbody>
</table>

Web Console File Migration
The Web console web.xml and Actions.xml files are migrated during an upgrade installation, but if you have made modifications to other Web console files, you must save them prior to upgrading and then restore them after upgrading.

Uninstallation
Run the `web_install_dir/nvwc/uninstall_nvwc` script on UNIX systems to delete the `nvwc` directory, where `web_install_dir` is the directory where the Web console is installed. This will remove the Tivoli NetView Web console.

Linux Installation Notes
Use the following information in conjunction with the Linux installation procedure:

1. Prior to the installation of the Tivoli NetView for UNIX, Version 7.1.4 program, the `/etc/hosts` file must be configured to ensure correct topology discovery. The file must include both the fully qualified host name and the short name for the host on the line giving the host’s IP address, for example:

   ```
   123.45.67.89 myhost.local.domain.com myhost
   ```


3. Once the Tivoli NetView for UNIX, Version 7.1.4 program has been installed on Linux, edit the `snmpd` daemon configuration file to add the following passthrough statement:

   ```
   pass .1.3.6.1.4.1.2.6.4.6.1 /bin/sh /usr/OV/bin/mgragentd view system included .1
   ```

   This configures the SNMP daemon to forward a request for a MIB variable to the Tivoli NetView server.

4. Stop and restart the `ovspmd` daemon by entering the following commands:

   ```
   ovstop nvsecd
   /etc/init.d/netnmrc
   ```

5. Stop and restart the `snmpd` daemon by entering the following commands:

   ```
   /etc/init.d/snmpd stop
   /etc/init.d/snmpd start
   ```
Deprecated Function

The Submap Explorer option under the Tools menu was removed from the Tivoli NetView for UNIX, program. Use the Tools -> Launch Web Console menu selections instead of the old Submap Explorer option.

Defects Fixed

This section lists defects that have been fixed as follows:

- Table 4, “Defects Fixed in Version 7.1.4”
- Table 5, “Defects Fixed in Version 7.1.3”
- Table 6, “Defects Fixed in Version 7.1.2”
- Table 7, “Defects Fixed in Version 7.1.1”

Table 4. Defects Fixed in Version 7.1.4

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>IY24675</td>
<td>Wrong description of activation panel on MLM Threshold/Collection table.</td>
</tr>
<tr>
<td>IY25067</td>
<td>SmartSet with negation char (!) for field attribute impacts discovery.</td>
</tr>
<tr>
<td>IY33891</td>
<td>OVW core when monitoring SNMP errors on CISCO switch.</td>
</tr>
<tr>
<td>IY35244</td>
<td>snmpwalk command can handle only sub-identifiers up to 0X7FFFFFFF.</td>
</tr>
<tr>
<td>IY35809</td>
<td>Netmon does not handle discovery of COMPAQ remote insight board.</td>
</tr>
<tr>
<td>IY36055</td>
<td>NVTurboDataBase command compression option corrupts map database.</td>
</tr>
<tr>
<td>IY36084</td>
<td>CNAT V1.2.2 not translating IP address in SNMP V2 packet.</td>
</tr>
<tr>
<td>IY37415</td>
<td>Administer -&gt; telnet (XTERM) fails on AIX V5 system.</td>
</tr>
<tr>
<td>IY37722</td>
<td>Migration script unnecessarily runs database compression.</td>
</tr>
<tr>
<td>IY38151</td>
<td>Installation fails on 64 Bit zLinux (Kernel 2.4.7).</td>
</tr>
<tr>
<td>IY38222</td>
<td>OVW_BINARY cores when read-only map is refreshed after closing.</td>
</tr>
<tr>
<td>IY38312</td>
<td>QuickTest Critical displays UP interfaces.</td>
</tr>
<tr>
<td>IY38681</td>
<td>Add connection error.</td>
</tr>
<tr>
<td>IY38709</td>
<td>Netmon resolves community names incorrectly.</td>
</tr>
<tr>
<td>IY38794</td>
<td>Explicit support for database compression format obsolete.</td>
</tr>
<tr>
<td>IY38831</td>
<td>Unnecessary double slashes in rectrap path.</td>
</tr>
<tr>
<td>IY38836</td>
<td>Progress meter acts incorrectly in Web Security console.</td>
</tr>
<tr>
<td>IY38849</td>
<td>Unable to display TEC events for nodes on NetView map.</td>
</tr>
<tr>
<td>IY38896</td>
<td>Web console fails with &quot;Error 405&quot; after migration upgrade.</td>
</tr>
<tr>
<td>IY38924</td>
<td>HSRP Interface incorrectly assigned due to timing problem.</td>
</tr>
<tr>
<td>IY38987</td>
<td>IPMAP core while in function &quot;CHANGEINTERFACESEGMEN&quot;.</td>
</tr>
<tr>
<td>IY39118</td>
<td>NetView with HACMP requires full database maintenance to be run.</td>
</tr>
<tr>
<td>IY39721</td>
<td>NVServerD ADAPTER_HOST slot is &quot;UNKNOWN&quot; if host name fully qualified.</td>
</tr>
<tr>
<td>IY39832</td>
<td>NetView.rls breaks if NetView IFNAME (VARBIND 8) slot is not unique.</td>
</tr>
<tr>
<td>IY39859</td>
<td>Incorrect community name being used to poll devices.</td>
</tr>
<tr>
<td>IY39944</td>
<td>OVW core after migration from NetView 6.0.2 to 7.1.3.</td>
</tr>
<tr>
<td>IY40102</td>
<td>Core in ovtopmd (exit code 6) on Solaris when ovstop is performed.</td>
</tr>
<tr>
<td>IY40164</td>
<td>Unmanaging all child objects leaves main object status unchanged.</td>
</tr>
<tr>
<td>APAR Number</td>
<td>Abstract of Defects Fixed in Version 7.1.4</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>IY40202</td>
<td>CollectionED is no longer able to define a smartset based on another smartset rule.</td>
</tr>
<tr>
<td>IY40255</td>
<td>Netmon adding garbage to the IFALIAS field.</td>
</tr>
<tr>
<td>IY40257</td>
<td>Netmon core and exit on signal 6.</td>
</tr>
<tr>
<td>IY40327</td>
<td>Unmanage location leaves nested location managed.</td>
</tr>
<tr>
<td>IY40359</td>
<td>NetView synchronizing for up to 2 days.</td>
</tr>
<tr>
<td>IY40422</td>
<td>NVevents does not find rulesets in a subdirectory.</td>
</tr>
<tr>
<td>IY40575</td>
<td>Netmon core on SOLARIS - NetView V7.1.3 FP1.</td>
</tr>
<tr>
<td>IY40807</td>
<td>Nodes disappearing from explorer view in web console.</td>
</tr>
<tr>
<td>IY40837</td>
<td>IPMAP core when a network name is the same as a location.</td>
</tr>
<tr>
<td>IY41061</td>
<td>MLM V7 User’s Guide contains incorrect info for AIX install.</td>
</tr>
<tr>
<td>IY41158</td>
<td>Add specifications (i.e. like ulimits) to the release notes for CLI commands.</td>
</tr>
<tr>
<td>IY41165</td>
<td>/etc/netnmrc script is not handling the snmpd64 daemon from AIX V5.</td>
</tr>
<tr>
<td>IY41210</td>
<td>The event command needs to be updated for several new traps.</td>
</tr>
<tr>
<td>IY41227</td>
<td>Need to trim whitespace in login hostname field in Web console.</td>
</tr>
<tr>
<td>IY41306</td>
<td>Need to log whether netviewd starts with read/only or read/write map.</td>
</tr>
<tr>
<td>IY41423</td>
<td>MIB2TRAP cored on NetView 7.1.3 on AIX.</td>
</tr>
<tr>
<td>IY41430</td>
<td>Bypassing prerequisite checking can cause bad migration of jar files.</td>
</tr>
<tr>
<td>IY41566</td>
<td>NetView migration does not ensure pre-existing backup is same as /usr/OV.</td>
</tr>
<tr>
<td>IY41608</td>
<td>Man pages for disspub and xnmtrap disspub trap description incorrect.</td>
</tr>
<tr>
<td>IY41626</td>
<td>NetView V7 Configuration Guide SC31-8894 Appendix C incorrect.</td>
</tr>
<tr>
<td>IY41640</td>
<td>IPMAP placing routers wrongly into locations.</td>
</tr>
<tr>
<td>IY41984</td>
<td>SNMP configuration lookup routines returning the hardcoded defaults.</td>
</tr>
<tr>
<td>IY42228</td>
<td>Unnecessary messages appearing regularly in netmon trace file.</td>
</tr>
<tr>
<td>IY42241</td>
<td>Incorrect SNMPAddresses on objects loaded into NetView with loadhosts.</td>
</tr>
<tr>
<td>IY42341</td>
<td>Wrong resolution of XNMSNMPCONFIG definitions.</td>
</tr>
<tr>
<td>IY42394</td>
<td>Netmon on Linux does not discover via CDPCache.</td>
</tr>
<tr>
<td>IY42407</td>
<td>NetCheck does not use SNMPTRIES value to perform snmp request.</td>
</tr>
<tr>
<td>IY42541</td>
<td>When HSRP virtual interface is deleted, interface down event is generated.</td>
</tr>
<tr>
<td>IY42757</td>
<td>Deleting object with space in name not working in NVMapUtil.sh.</td>
</tr>
<tr>
<td>IY42765</td>
<td>Install scripts check for directory release notes say can be deleted.</td>
</tr>
<tr>
<td>IY42832</td>
<td>Can’t open Web console when NetViewd running in read/write mode.</td>
</tr>
<tr>
<td>IY42836</td>
<td>NetView device SNMP address not getting updated to correct IP address.</td>
</tr>
<tr>
<td>IY42839</td>
<td>SMMLMFILTERAGENTADDREXPRESS not working on Solaris.</td>
</tr>
<tr>
<td>IY42893</td>
<td>OVW_BINARY core in NetView 7.1.3 on AIX.</td>
</tr>
<tr>
<td>IY43161</td>
<td>Jetty server susceptible to cross-site scripting vulnerabilities.</td>
</tr>
<tr>
<td>IY43169</td>
<td>HSRP interface discovered as lone device.</td>
</tr>
<tr>
<td>IY43406</td>
<td>Router remains marginal when the only ”down” interface is deleted.</td>
</tr>
<tr>
<td>IY43441</td>
<td>LOCATION.CONF will not handle any range that contains a 0 in an octet.</td>
</tr>
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</table>
### Table 4. Defects Fixed in Version 7.1.4 (continued)

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>IY43640</td>
<td>NetView 7.1.2 to 7.1.3 migration fails with a “ERR_bcfg_279” error.</td>
</tr>
<tr>
<td>IY43722</td>
<td>NetView V7.1.3 (Linux) nvcorrd tracing not enabled with “nvcdebug -d all” command.</td>
</tr>
<tr>
<td>IY43838</td>
<td>Netmon start causes modprobe error on zLinux.</td>
</tr>
<tr>
<td>IY44034</td>
<td>SNMPCollect cores with signal 11.</td>
</tr>
<tr>
<td>IY44081</td>
<td>NVSniffer incorrectly changing field to TRUE for service no longer present.</td>
</tr>
<tr>
<td>IY44097</td>
<td>Interfaces disappear if set to 0.0.0.0 by Windows.</td>
</tr>
<tr>
<td>IY44226</td>
<td>Netmon resetting unmanaged nodes to managed.</td>
</tr>
<tr>
<td>IY44258</td>
<td>Switch view of Web console doesn’t work under Red Hat Linux.</td>
</tr>
<tr>
<td>IY44481</td>
<td>Incorrect field contents in softlinked directory when running SNMPCollect setup in SMIT.</td>
</tr>
<tr>
<td>IY44681</td>
<td>ReadCore not working on NetView for AIX V7.1.3.</td>
</tr>
<tr>
<td>IY44811</td>
<td>snmpColIDump documentation inconsistent between documentation and man page.</td>
</tr>
<tr>
<td>IY44818</td>
<td>Documentation does not show use of awk for SOLARIS scripts.</td>
</tr>
<tr>
<td>IY45164</td>
<td>Deadlock condition between nvcold and ovwdb.</td>
</tr>
<tr>
<td>PJ28933</td>
<td>Remove the SNMPV2 Mib Loader information from help.</td>
</tr>
<tr>
<td>PJ28992</td>
<td>NVDBIMPORT.EXE and NVDBFORMAT.EXE don’t work after 7.1.3 FP1 install.</td>
</tr>
<tr>
<td>PJ29093</td>
<td>Context menu ‘SELECTIONRULE’ broken when different nodes on same submap.</td>
</tr>
</tbody>
</table>

### Table 5. Defects Fixed in Version 7.1.3

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IY22822</td>
<td>Override severity in ruleset is ignored in further processing.</td>
</tr>
<tr>
<td>IY24918</td>
<td>Incorrect community name in MIB Browser panel in PDA window.</td>
</tr>
<tr>
<td>IY27172</td>
<td>NetView 6.0.3 trapd cores.</td>
</tr>
<tr>
<td>IY27638</td>
<td>IPmap cores if adding object with existing selection name.</td>
</tr>
<tr>
<td>IY28653</td>
<td>IP address truncated in OVOBJPRINT topm interface list.</td>
</tr>
<tr>
<td>IY29433</td>
<td>OVWDB hangs even though IY25986 E-fix installed.</td>
</tr>
<tr>
<td>IY29607</td>
<td>IPXWorkstation Filebase doesn’t show on workstation symbol.</td>
</tr>
<tr>
<td>IY29797</td>
<td>MLM fails to display filter table on Solaris 2.8.</td>
</tr>
<tr>
<td>IY29858</td>
<td>TRUEREINIT doesn’t work correctly for MLM on Solaris.</td>
</tr>
<tr>
<td>IY30054</td>
<td>Only 256 Web consoles allowed before all freeze.</td>
</tr>
<tr>
<td>IY30308</td>
<td>Momentary map freezes after upgrading to NetView V6.0.3.</td>
</tr>
<tr>
<td>IY30309</td>
<td>Seed file networks unmanaged if discovered by other mechanism.</td>
</tr>
<tr>
<td>IY30311</td>
<td>OVW cores after cut/paste followed by manage/unmanage.</td>
</tr>
<tr>
<td>IY30421</td>
<td>Reachable/Nonreachable network not always being handled correctly.</td>
</tr>
<tr>
<td>IY30683</td>
<td>NVDBFormat incorrectly matches objects with high object id.</td>
</tr>
<tr>
<td>IY30704</td>
<td>OVMapCount cores after applying Efix IY30308.</td>
</tr>
<tr>
<td>IY30856</td>
<td>Efix IY30704 correction.</td>
</tr>
<tr>
<td>APAR Number</td>
<td>Abstract of Defects Fixed in Version 7.1.3</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>IY30888</td>
<td>C_ARF2SRF is hanging while converting SMSIAAPPLICATIONS-14.</td>
</tr>
<tr>
<td>IY30894</td>
<td>Minor memory leaks in netmon eventually result in core.</td>
</tr>
<tr>
<td>IY30942</td>
<td>NetView 7.1.1 netmon limited to 256 Mb memory.</td>
</tr>
<tr>
<td>IY30944</td>
<td>OVMACount -b cores after removing 25,000 objects from the map.</td>
</tr>
<tr>
<td>IY30945</td>
<td>Netmon requires recompile to bypass OS-imposed 256 Mb mem limit.</td>
</tr>
<tr>
<td>IY30946</td>
<td>OVTopoFix requires recompile to bypass OS-imposed 256 Mb mem limit.</td>
</tr>
<tr>
<td>IY31144</td>
<td>XNMLoadmib fails with ‘too many imports’ message.</td>
</tr>
<tr>
<td>IY31414</td>
<td>Web console Event Browser doesn’t handle ruleset override severity.</td>
</tr>
<tr>
<td>IY31467</td>
<td>Better documentation on NVHotBackup needed.</td>
</tr>
<tr>
<td>IY31598</td>
<td>SelectionName not updated during initial discovery.</td>
</tr>
<tr>
<td>IY31760</td>
<td>Netmon memory leak in function actionIfTable.</td>
</tr>
<tr>
<td>IY31770</td>
<td>OVMACount producing incorrect output with excessive execution time</td>
</tr>
<tr>
<td>IY31841</td>
<td>MLM core when executing a filter table “Matched Command”.</td>
</tr>
<tr>
<td>IY31843</td>
<td>Books fail using AIX-supplied NetScape with AIX 4.3.3 ML 08/09.</td>
</tr>
<tr>
<td>IY32067</td>
<td>OVTopoFix -C should exit gracefully when run again NVTurboDB.</td>
</tr>
<tr>
<td>IY32236</td>
<td>MLM 7.1.3 core on filter table on Solaris.</td>
</tr>
<tr>
<td>IY32258</td>
<td>OVW and NetViewD incorrectly update last synchronization time.</td>
</tr>
<tr>
<td>IY32274</td>
<td>ConvertNNM truncates topology interface lists.</td>
</tr>
<tr>
<td>IY32297</td>
<td>instalnv script fails on managed node with wlocalhost defined.</td>
</tr>
<tr>
<td>IY32422</td>
<td>NetView UNIX 7.1.1 OIDS in seed file cause memory leak in ovwdb.</td>
</tr>
<tr>
<td>IY32527</td>
<td>Islpp script not working on LINUX installation.</td>
</tr>
<tr>
<td>IY32548</td>
<td>owls script output on linux installation.</td>
</tr>
<tr>
<td>IY32566</td>
<td>IPMap may core (signal 4) if the map closed during initial synch.</td>
</tr>
<tr>
<td>IY32838</td>
<td>NetView control desk cannot be separated.</td>
</tr>
<tr>
<td>IY33059</td>
<td>Need method for checking total space requirements for update inst.</td>
</tr>
<tr>
<td>IY33118</td>
<td>Need Solaris hardware requirements for NetView 7.1.</td>
</tr>
<tr>
<td>IY33192</td>
<td>Document host name restrictions NetView imposes on nodes.</td>
</tr>
<tr>
<td>IY33321</td>
<td>NetView UNIX 7.1.2 unable to set switch in netmon.conf file.</td>
</tr>
<tr>
<td>IY33630</td>
<td>Prereq checking uses wrong command to get host name.</td>
</tr>
<tr>
<td>PJ28756</td>
<td>Missing documentation about acknowledging an object from the command line.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>IY25741</td>
<td>OVSNMPCONFCLOSE() fails to release all file descriptors</td>
</tr>
<tr>
<td>IY27439</td>
<td>Check route node in ruleset shows incorrect setting</td>
</tr>
<tr>
<td>IY28079</td>
<td>IPMap trap input character described wrong in documentation</td>
</tr>
<tr>
<td>IY28144</td>
<td>NVSecD aborts with signal 4 and cores</td>
</tr>
<tr>
<td>IY28188</td>
<td>Memory management problems in NVCorrD leads to core</td>
</tr>
<tr>
<td>IY28360</td>
<td>Readcore hangs instead of returning useful error message</td>
</tr>
</tbody>
</table>
Table 6. Defects Fixed in Version 7.1.2 (continued)

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.2</th>
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<tbody>
<tr>
<td>IY28494</td>
<td>NetViewd daemon pop-up boxes cannot be acknowledged</td>
</tr>
<tr>
<td>IY28526</td>
<td>SNMP configuration not updated by communityname.conf entry</td>
</tr>
<tr>
<td>IY28665</td>
<td>NVDBFormat SELECTRULE not searching entire list</td>
</tr>
<tr>
<td>IY28719</td>
<td>NVCorrD cores after ruleset change</td>
</tr>
<tr>
<td>IY28730</td>
<td>Segment status incorrect when interface is Admin Down</td>
</tr>
<tr>
<td>IY28800</td>
<td>Sysmon changes to correct CERT violations</td>
</tr>
<tr>
<td>IY28834</td>
<td>NVCorrD cores when user script overflows buffer</td>
</tr>
<tr>
<td>IY28841</td>
<td>Serversetup has bad default value for “SERVERPORT” field</td>
</tr>
<tr>
<td>IY28934</td>
<td>Rectrap cores when undefined trap received</td>
</tr>
<tr>
<td>IY29129</td>
<td>liblocal ICMP messages might be dropped due to contents</td>
</tr>
<tr>
<td>IY29166</td>
<td>Paging queue fills/cores without giving any messages</td>
</tr>
<tr>
<td>IY29171</td>
<td>Multiple netmon memory leaks</td>
</tr>
<tr>
<td>IY29203</td>
<td>Users Guide talks about “SUBMAP EXPLORER”</td>
</tr>
<tr>
<td>IY29356</td>
<td>No documentation for moving between location containers</td>
</tr>
<tr>
<td>IY29374</td>
<td>Performance issue after fix to man/unman node propagation</td>
</tr>
<tr>
<td>IY29392</td>
<td>Discovery fails if address is already as AD in object DB</td>
</tr>
<tr>
<td>PJ28175</td>
<td>NetmonNT core in function checkconninfo</td>
</tr>
<tr>
<td>PJ28510</td>
<td>Correction of Web server security leak</td>
</tr>
</tbody>
</table>

Table 7. Defects Fixed in Version 7.1.1

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>IY08054</td>
<td>xnmsnmpconf -update and -delete fail when using wildcards</td>
</tr>
<tr>
<td>IY18214</td>
<td>Need mechanism to clear invalid map timestamp</td>
</tr>
<tr>
<td>IY21738</td>
<td>Query SmartSet node doesn’t work for interface selection names</td>
</tr>
<tr>
<td>IY21803</td>
<td>NVColdD not deleting interface when its deleted from IPMAP</td>
</tr>
<tr>
<td>IY22700</td>
<td>Trapid cores using NVAddTrapDConf with large event name</td>
</tr>
<tr>
<td>IY23199</td>
<td>NVCold wrongly handles node with “Admin Down” interfaces</td>
</tr>
<tr>
<td>IY23387</td>
<td>SNMPCollect “Test” function window does not scroll</td>
</tr>
<tr>
<td>IY23828</td>
<td>MAC Addr of 0X000000000000 should be ignored for HSRP</td>
</tr>
<tr>
<td>IY23872</td>
<td>SNMP Status Polling problem during HSRP processing</td>
</tr>
<tr>
<td>IY24273</td>
<td>ISACKNOWLEDGED Field not reset to false in ovwdb</td>
</tr>
<tr>
<td>IY24405</td>
<td>Cut and Paste of location objects with contents not working</td>
</tr>
<tr>
<td>IY24614</td>
<td>NVDBFormat footer contains incorrect number of objects found</td>
</tr>
<tr>
<td>IY24675</td>
<td>Documentation incorrect for MLM Activation panel</td>
</tr>
<tr>
<td>IY24841</td>
<td>Can’t get object info when brackets in SELECTIONNAMES</td>
</tr>
<tr>
<td>IY24846</td>
<td>Older version of Release Notes shipped on NetView 7.1 CD</td>
</tr>
<tr>
<td>IY24858</td>
<td>NetView Maps hung waiting for data from socket</td>
</tr>
<tr>
<td>IY25294</td>
<td>SmartSet object count does not equal that of NVUtil -l</td>
</tr>
<tr>
<td>IY25342</td>
<td>Unmanaged network object does not have unmanaged IP status</td>
</tr>
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</table>
Table 7. Defects Fixed in Version 7.1.1 (continued)

<table>
<thead>
<tr>
<th>APAR Number</th>
<th>Abstract of Defects Fixed in Version 7.1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>IY25469</td>
<td>Map freezes when GLOBAL ACKNOWLEDGED enabled</td>
</tr>
<tr>
<td>IY25660</td>
<td>Memory leak found in OVWDB</td>
</tr>
<tr>
<td>IY25791</td>
<td>LANG variable not documented correctly in 7.1 Release Notes</td>
</tr>
<tr>
<td>IY25810</td>
<td>NetView 7.1 IPMAP cores when using location.conf</td>
</tr>
<tr>
<td>IY25819</td>
<td>SMConvert line wraps causing incorrect results downstream</td>
</tr>
<tr>
<td>IY25937</td>
<td>UNIX Polling file location incorrect in 7.1 Release Notes</td>
</tr>
<tr>
<td>IY25937</td>
<td>RFI incorrectly handling “Admin Down” interfaces</td>
</tr>
<tr>
<td>IY25971</td>
<td>NVCorrD cores with signal 11 due to memory leaks</td>
</tr>
<tr>
<td>IY25986</td>
<td>Map turns grey / freezes until dbxprof performed on OVWDB</td>
</tr>
<tr>
<td>IY26119</td>
<td>SNMP address being changed by NETMON</td>
</tr>
<tr>
<td>IY26301</td>
<td>COLLMAP fills nv6000.log with messages on socket problem</td>
</tr>
<tr>
<td>IY26404</td>
<td>Unneeded “address changed” traps during status polling</td>
</tr>
<tr>
<td>IY26405</td>
<td>Synchronization times between XXMAP and GTMD too slow</td>
</tr>
<tr>
<td>IY26423</td>
<td>Resolve database inconsistencies fails</td>
</tr>
<tr>
<td>IY26486</td>
<td>NVStat and OVStatus showing incorrect pids for Web daemons</td>
</tr>
<tr>
<td>IY26581</td>
<td>“Admin Down” Interfaces forcing frequent router checks</td>
</tr>
<tr>
<td>IY26725</td>
<td>Trapfiler at MLM doesn’t work with default trap destination</td>
</tr>
<tr>
<td>IY26983</td>
<td>Number of SRFS and ARFS limited per domain</td>
</tr>
<tr>
<td>IY27008</td>
<td>NVCOLTOSQL collecttime variable uses 2 digit year</td>
</tr>
<tr>
<td>IY27110</td>
<td>Selecting networks in serversetup for netmon not correct</td>
</tr>
<tr>
<td>IY27193</td>
<td>NVSniffer traps are inconsistent between NT and AIX</td>
</tr>
<tr>
<td>IY27343</td>
<td>OVActionD logging too verbose since trap security fix</td>
</tr>
<tr>
<td>IY27459</td>
<td>Modified netmon coring due to invalid object pointer</td>
</tr>
<tr>
<td>IY27554</td>
<td>ISACKNOWLEDGED not set to true for non-IP object</td>
</tr>
<tr>
<td>IY27692</td>
<td>Missing Java library error when running Java app scripts</td>
</tr>
<tr>
<td>IY27784</td>
<td>CiscoWorks 2000 install doc missing from NetView 7.1 CD</td>
</tr>
<tr>
<td>IY28152</td>
<td>Missing argument descriptions in documentation for NVSniffer</td>
</tr>
<tr>
<td>IY28117</td>
<td>Large database causing long Web console synchronization</td>
</tr>
<tr>
<td>IY28562</td>
<td>NetView fails CERT CA-2002-03 Test Cases</td>
</tr>
<tr>
<td>PJ28326</td>
<td>Syntax errors in netnmrc for NetView V7.1</td>
</tr>
</tbody>
</table>

**Known Limitations**

- Use of Tivoli NetView Web console security on UNIX systems requires root permissions. If you attempt to start Web console security as a non-root user on a UNIX system, you are denied access to Web console security and error messages are displayed.

- The Tivoli NetView Version 7.1 mib2trap option of the mibloader.sh script does not recognize the following special comments that begin with two dashes and a number sign (--#).

  --#SUMMARY “Root cause failure: %s %s (%s)”
On the Linux operating system, in particular zLinux, running the name service caching daemon (nscd) causes sporadic core dumps within the Tivoli NetView product. This is due to defects in the nscd client code. Disable nscd on the Linux operating system to prevent this problem.

Removing any one Tivoli NetView installation within a Tivoli Management region also removes the Tivoli Framework registry entries within the Tivoli Framework database for all Tivoli NetView installations, and it seems as if there is no Tivoli NetView product installed on any node. A workaround for this problem is to reinstall the Tivoli NetView installations that are installed. The Tivoli Framework will state that all components are already installed on that system, and when Continue is pressed, the registry entry is rebuilt.

On Solaris, some Tivoli NetView man pages are not visible to the man command. Until the correct system patch can be determined, set the environment variable MANPATH to $MANPATH:/usr/share/man:/usr/OV/man.

The Tivoli NetView Release Notes, Version 7.1 state that the installation documentation for CiscoWorks 2000 is included in the /Adapters/Cisco directory of the Tivoli NetView Version 7.1 CD. This file was omitted from the Tivoli NetView Version 7.1 CD. You can find the installation documentation in the /Adapters/Cisco directory on the Tivoli NetView for UNIX Version 7.1.4 CD.

On Red Hat Linux, when running the Tivoli NetView for UNIX, Version 7.1.4 program, you cannot double-click a resource to open a view in the native console when running under the Sawfish Window Manager in the Gnome desktop. One alternative is to choose a different window manager such as TWM, or another desktop such as KDE.

A second alternative is to change the Sawfish Window Manager default values:
1. Start the Gnome control center.
2. Choose Sawfish Window Manager —> Shortcuts.
3. From the Context list, click Window.
4. From the list, delete the three lines in which the command field is Raise Transients and pass through click.
5. Click OK.
6. Click Sawfish Window Manager —> Focus Behavior.
7. Click the Focus tab.
8. Click Raise windows when they are focused.
9. Click OK.

On SuSE Linux, when running the Tivoli NetView for UNIX, Version 7.1.4 program, you cannot select multiple nodes in the native console when running under the Sawfish Window Manager in the Gnome desktop.

Use the following workaround:
1. Start the Gnome control center.
2. Click Sawfish Window Manager —> Shortcuts.
3. Change the Modifier key(s) used for default from Window Manager shortcuts from control to shift.
4. Click OK.

- The Global Acknowledge function provided by Tivoli NetView IPMAP
  application is designed to work only with those objects in the map created and
  managed by the IPMAP application. Global Acknowledge for non-IP map objects
  created by the user or other O/Vw applications is not supported.

- If you are upgrading to the Tivoli NetView for UNIX, Version 7.1.4 program and
  have the Tivoli Business Systems Manager Adapter installed, contact your Tivoli
  representative for an update to the Tivoli Business Systems Manager Adapter.

- The nvserverd.baroc and nvserverd.rls files are not shipped with the Tivoli
  NetView for UNIX, Version 7.1.4 program. They are no longer necessary with
  the new enhanced integration between Tivoli NetView and Tivoli Enterprise
  Console.

  However, these files are not removed during an upgrade installation for existing
  customers who still use the old O/V style event class structure.

- Tivoli NetView for UNIX servers must run on a system with a fixed TCP/IP
  address, not one that uses DHCP.

- There are problems resulting from the Linux routing cache containing stale
  incorrect entries. A symptom of a stale entry is when you can not perform a
  Demandpoll on a node that is Up, but you can access it through the MIB
  Browser.

  Remedy: See the Linux documentation for instructions on deleting the default
  route entry and reading it to flush the stale entry. If the problem is that the route
  table and route cache do not display the same next hop entries for your
  destination of interest, then you might be experiencing ICMP redirect problems.
  Consult your operating system documentation for instructions on how to stop it
  from performing redirects if you do not want redirects to be performed on your
  Tivoli NetView workstation.

- For AIX systems with extremely large databases, special processing might be
  required prior to performing an upgrade. To determine whether this applies to
  your database, issue the following command: /usr/OV/bin/ovtopofix -a. If the
  command completes without an error, proceed with the upgrade. If the
  command fails, contact IBM customer support.

- All HSRP routers must be managed to accurately display standby status.

- For the Tivoli NetView product running on Linux to accurately display status,
  all routers in an HSRP cluster must be configured with the same SNMP
  community string.

- The Linux SNMP agent for RedHat Versions 7.1 and 7.2, and SuSE Version 7.2
  does not return the following interface table variables:
  - ifLastChange
  - ifInNUcastPkts
  - ifInDiscards
  - ifInUnknownProtos
  - ifOutNUcastPkts

  Note that the ifInNUcastPkts and ifOutNUcastPkts variables are required for the
  interfaces view that is displayed when you click Monitor —> Network —> Interfaces.

- The installation of the Tivoli NetView program using the Tivoli Framework
  occasionally fails, with the Framework log files indicating that the failure was
  because the Tivoli NetView program was unable to rename its own log files
  from a .error suffix to a .debug suffix. This problem occurs because the
  Framework is placing the logs in a different area than the Tivoli NetView
  program expects. To resolve the problem, perform the following steps:
– Rename the directory $DBDIR/tmp.
– Link directory /tmp to directory $DBDIR/tmp.
– Perform the installation.
– Remove the link from the /tmp directory to the $DBDIR/tmp directory.
– Restore the original $DBDIR/tmp directory.

• If you load or unload MIBs while the Web console MIB browser is running, you must stop and restart the MIB browser to work with these MIBs.
• When you use the Web console MIB loader to load or unload MIBs, the MIB loader reloads all of the MIBs, and displays warning messages about all MIBs, not just the MIBs you last loaded or unloaded. If the commit was successful, ignore the messages.
• The Tivoli NetView product supports 64-bit AIX systems. However, the 64-bit version of the SNMP daemon (snmpd64) is not supported on AIX operating systems.
• Defect: 112982: If you are running a Java application on Solaris, you might receive the following error message:

   Font specified in font.properties not found
   [-urw-itc zapfdingbats-medium-r-normal--*-l-roman--*-l-*-*-p-*--sun-fontspecific]

   Install the following font packages from /usr/openwin/lib/X11/fonts/F3 to resolve this problem:
   – ZapfDingbats.f3b
   – Symbol.f3b.
• Defect 96920: The Tivoli NetView product might indicate that the Tivoli NetView Web server is running before it actually is. This can cause a problem if you try to start a Tivoli NetView Web console immediately after starting the Tivoli NetView Web server. To avoid this problem, wait for several minutes after starting the Tivoli NetView Web server before you start a Tivoli NetView Web console.
• Defect 117086: When using the xnmsnmpconf command line, you cannot specify a SmartSet name as the target in the configuration string. To create and modify SmartSet entries, you must click Options —> SNMP Configuration and use the xnmsnmpconf graphical user interface application from the native console menu bar.
• Defect 116505: If you are exporting your Tivoli NetView native console from a Tivoli NetView Server running on the AIX operating system to certain Linux systems, the Tivoli NetView native console might stop because the X servers are not compatible. This is known to occur with Red Hat Linux and SuSE Linux.
• Open System Adapters (OSA) on IBM z/OS systems enable sysplex systems to have unique IP addresses but still share a network card. Because the IP addresses on these adapters share a MAC address, the Tivoli NetView product treats them as secondary addresses also, which causes them to be reported as duplicate IP addresses. This causes the Tivoli NetView product to periodically delete and add the IP address.

To prevent this problem, disable secondary addressing in the netmon daemon as follows:
– From the Server Setup menu, click Configure —> Set options for daemons —> Set options for topology, discovery and database daemons —> Set options for netmon daemon.
– Select No for Secondary addressing support?
– Click OK.
• Defect 117557: When you are displaying events in card mode on United Linux, double-clicking on an event does not display a card at the top of the stack. As a workaround, change to the list view and double-click on the event to display the card.

### Documentation Changes

This section provides information about documentation changes for the Tivoli NetView for UNIX library and the online help.

• In the *Tivoli NetView Release Notes*, Version 7.1 the title “Polling Configuration File Changes” on page 33 should be changed to “Polling Configuration File Changes (Windows only)”, because these changes are not applicable to the Tivoli NetView for UNIX, Version 7.1 program.

• The *Tivoli NetView Release Notes*, Version 7.1 found in the PDF file in the top level directory of the Tivoli NetView for UNIX Version 7.1 CD are an earlier version of the release notes. The HTML file found in the top level directory of the Tivoli NetView Version 7.1 CD, the PDF and HTML versions found in the directory `/usr/OV/books/C` of the Tivoli NetView Version 7.1 installation, and the hardcopy version that are shipped as a part of Tivoli NetView for UNIX, Version 7.1 are the correct versions of the file.

• The *Tivoli NetView for UNIX Administrator’s Reference*, Version 7.1 does not list all of the flags for the `nvsniffer` application that are described in the Tivoli NetView `nvsniffer` man page. The following information should be included:

  - `-d` Optionally, log to stdout the node and service combination to be tested. This is useful for diagnosing nodes that are slow to respond. Works best when used with one worker thread (`-t 1`) to avoid scrambled output.

  - `-l logFile` Optionally, specify a log file to store the progress of `nvsniffer`. If the named log file already exists, the existing file is appended.

  - `-m` Optionally, force the `nvsniffer` command to start the `nvsniffer` application even if another instance of the `nvsniffer` application is already running. Use this option sparingly since each instance of the `nvsniffer` application can consume significant system resources.

  - `-o` Optionally, test nodes that do not have an IP status of either Normal or Marginal. Nodes having an IP status of Critical are otherwise not tested.

  - `-p physmem` Optionally, specify the maximum amount of virtual memory (in megabytes) the Java Virtual Machine (JVM) running the `nvsniffer` application should occupy. The value specified for this option is not validated by the `nvsniffer` application; it is passed directly to the JVM that will start the `nvsniffer` application. Avoid values higher than 64, especially if the `-m` option is used.

  - `-r minutes` Optionally, re-run the current `nvsniffer` command in the specified number of minutes using the current set of switches. The valid range is 5-44640 minutes (up to 31 days maximum).

  - `-s` Optionally, run the `nvsniffer` application in Status mode to test all known services for their current status. The node selection criteria for each entry is the `{Service SmartSet}` field. Running the `nvsniffer` application in Status mode is typically faster than using the default (Discover) mode, since only known services are tested.
-T timeout

Optionally, override the time to allow a test to complete (in seconds). The default value is 10 seconds. For raw TCP port tests, some operating systems do not allow such tests to be timed out; therefore if the time taken to perform raw port tests to a given node exceeds the timeout value, all remaining raw port tests to that node are skipped and a warning message is displayed. The maximum value is 120.

-v

Optionally, make nvsniffer display more detailed output regarding its progress.

- The “Customizing Startup” section on Page 13 of the NetView for UNIX Configuration Guide, Version 7, shows the following statement:

To customize the startup process, modify the /usr/OV/bin/netnmrc.appsetup shell script, /usr/OV/bin/netnmrc.pre shell script, or /usr/OV/bin/netnmrc.aux shell script, rather than the netview and netnmrc shell scripts.

The reference to /usr/OV/bin/netnmrc.appsetup should be changed to /usr/OV/bin/appsetup.

- The “Using Alternate Community Names” section of the Tivoli NetView for UNIX Configuration Guide, Version 7, begins at the bottom of page 55. The top of page 56 should be changed as follows:

The following section is incorrect:

Normally, netmon will use the community name from the SNMP configuration. If a name has not been configured for a device, it will use public, the default. If this fails, netmon will use the list in the communityNames.conf file, but only under the following circumstances...

It should be changed to:

Typically, the netmon daemon will use the community name from the SNMP configuration. If a name has not been configured for a device, it will use the global default value. If this fails, the netmon daemon will use the list in the communityNames.conf file. The public community name is used only if it is configured for a specific node, configured as the global default value, or is listed in the communityNames.conf file. Netmon will use the list in the communityNames.conf file only under the following circumstances:

- The following section from the Tivoli NetView Release Notes, Version 6 was omitted from the Tivoli NetView Release Notes, Version 7.1:

Configuring your Database for Routers with More than 20 Interfaces:

If your network consists of any routers with more than 20 interfaces, then you will need to reconfigure the Tivoli NetView OVw object database. If you do not perform this action, these routers might not be discovered correctly during the Tivoli NetView discovery process.

To reconfigure the Tivoli NetView OVw object database, use the /usr/OV/service/nvTurboDatabase tool at any point after creating the databases. When you use this tool, be aware of these restrictions:

- If you regenerate the OVw databases, you must run the tool again. It can be run at any time, even if the databases are empty.
- Do not run utilities that compact the databases, such as the commands:
  ovtopofix -C
  ovwdbmap -c

To reconfigure the Tivoli NetView OVw object database, shut down all Tivoli NetView GUIs and then issue the following command from the command line:

/usr/OV/service/nvTurboDatabase space
For more information about this utility, see Appendix G “Database Enhancements in Tivoli NetView” in the *Tivoli NetView for UNIX Configuration Guide*. Note that this section now applies to the AIX operating system and Solaris.

- The man pages for the event command and for the trapd.conf file contain a typographical error. This error is that the source character used to represent the ipmap process (identified as Ipmap sa) is written as a plus sign (+) instead of an upper-case I. The plus “+” character is used in the man pages as the bullet character of a bulleted list, so there was a formatting problem when the man pages were extracted.

  If you attempt to use the plus sign (+) in an event command, as in
  
  ```
  event -h host1 -e MN_EV -s +
  ```
  
  it will result in the error message:

  ```
  invalid source +
  ```

  The correct command would be

  ```
  event -h host1 -e MN_EV -s I
  ```

  There are no Tivoli NetView traps defined in the trapd.conf file with a source character of +, though the user can add traps or modify existing ones and use this value as the source. The Tivoli NetView traps from the ipmap application that are defined in the trapd.conf file all have the source character of I.

- The documentation (both the manuals and the location.conf file) should contain the following information that was omitted from the *Tivoli NetView Release Notes, Version 7.1*:

  You should not cut a symbol whose location is defined in the location.conf file and paste it into a new location. If you do so, duplicate symbols are displayed when the IPMAP application is restarted: one in the original location described in the location.conf file, and one in the location defined by the cut and paste operation. If you do not want duplicate symbols, you must either remove the symbol from the location.conf file, or modify the location.conf file to specify the new location of the symbol.

- Under “Software Requirements” in the “Installing the NetView Program on UNIX” section of *Tivoli NetView Release Notes, Version 7.1*, one of the “Additional Information” bullet items states:

  - If you want to use RIM with NetView Version 7.1 on Solaris, you must use Tivoli Management Framework 3.6.3 and not the 3.7 version of Tivoli Management Framework.

  This restriction was removed in version 7.1.1 but was omitted from the version 7.1.1 release notes.

- In the *Tivoli NetView Release Notes, Version 7.1*, “Installing the Tivoli Integration Pack for Tivoli NetView (TIPN)” was discussed on page 113. The bulleted items in this section are correct, but references to the TIPN CD are obsolete. As described in the bullet item, the Tivoli Enterprise Console functionality is now incorporated into the base NetView package.

- In the *Tivoli NetView Release Notes, Version 7.1 and the Tivoli NetView Web Console User’s Guide, Version 7.1*, all references to default map should be changed to the read-write map.

- The -y and -Y options of the netmon command are not in bold font in the man pages, so they are easy to overlook. The options are also described in the *Tivoli NetView for UNIX Administrator’s Reference*. 
• The “Realtime graph” section of the Web Console User’s Guide should state that you must click **Start** to begin graphing.

• The man page for the mib.coerce file should state that only MIB variables are coerced, not expressions. The following statement should be added to the Purpose section of the mib.coerce description in the *Tivoli NetView for UNIX Administrator’s Guide*: Contains the configuration file for modifying the type of MIB data received from an agent for a MIB variable. Expressions are not coerced.

• The online help window /usr/OV/online_help/C/lcgl1mst219.htm should be changed as follows:
  
  Throttle Settings.
  
  8. Click Throttle Settings to specify the number of matching traps that are sent to the top-level manager. These values are used only if the Action field is set to throttle Traps. The Armed Command and Disarmed Command fields have a length limitation of 256 byes.

• The *Tivoli NetView Release Notes*, Version 7.1, did not list the following information in the “Additional Solaris Information” section:

  **Recommended Solaris Machine Types**
  Contact IBM customer support for information about the recommended Solaris machine type for the size of your network.

• The section “Forwarding Events to the Tivoli Enterprise Console” in Chapter 5 of the *Tivoli NetView for UNIX Configuration Guide*, Version 7.1, has been superseded by the following sections:
  
  – “Revised Tivoli Enterprise Console Integration for Version 7.1.4” on page 2
  – “Enhanced Tivoli Enterprise Console Integration” on page 16
  – “Revised Tivoli Enterprise Console Integration for Version 7.1.3” on page 15

  The nvserverd.rls and nvserverd.baroc files are no longer necessary, because they have been superseded by the netview.rls file that is included with Tivoli Enterprise Console, Version 3.9. The recommended NetView rule name is TEC_ITS.rs (to be used with the new netview.rls rule set).

• Defect 100361: some links in the UNIX online help do not function correctly. Refer to the Tivoli NetView for UNIX library for the information.

• The Web console online help has the following problems:
  
  – Defect: 104882: The Remote SNMP node address has the following typographical error: **JWith** should be **With**.
  
  – Defect 104853: Under *Understanding the Object Properties*, the Name or IP Address section does not expand when you click it. Click **Show all sections** in this topic to access this information.
  
  – Defect 113925:
    
    - The Events After and the Events Before fields are missing the following information: Enter a date and time in the **Events After** field to limit the result to all events after the specified date and time. Enter a date and time in the **Events Before** field to limit the result to all events before the specified date and time.
    
    - The General section does not provide the following information about how to filter events based on multiple nodes in the Events for Nodes Field: After typing the name of the node in the **Name** text box, click **Add** to add the node to the list of nodes to filter on. After entering all of the nodes to filter on, click **Apply** or **OK** to apply the filter.
- The Traps help does not describe the following entries for the list: Exclude Events for Selected Traps and Include Events for Selected Traps. The following information should be provided: Click Include Events for Selected Traps from the list to limit the results to events for only the selected traps. Click Exclude Events for Selected Traps from the list to limit the results to events for all traps excluding the selected traps.

- Wherever Click Apply —> OK is used in the Event Browser help, it should be changed to: Click either Apply or OK to apply the filter.

- The following information should be added to the end of the “Configuring Agent Community Names” section of the Tivoli NetView for UNIX Configuration Guide, Version 7, as follows:
  If the SNMP agent on the server machine is using something other than public for the read-only community string, the mngagentd.acl file must be configured to also use the non-public community string.

- A single Tivoli NetView Web console with one open submap can generate a request log of about 2 MB per day. If you have many Tivoli NetView Web consoles running with submap or event browser opened, you should lower the number of days that the request.log files are retained. This can be configured in the jetty.xml file with the RetainDays parameter. Log files are retained for 10 days by default.
  For UNIX systems, the /usr/OV/service/compresslog script is provided to compress the jetty request.log file. This script compresses all request.log files in the /usr/OV/www/logs directory except the log for the current day. If you serve a large number of clients, you might want to create a cron job to run this script on a daily basis.
  The following information in the “Logging” section of the Tivoli NetView Release Notes, Version 7.1 should be changed as follows:
  The daily Web server log files are named yyyy_mm_dd.request.log. Log files are retained for 10 days. This can be configured in the jetty.xml file RetainDays parameter.

- APAR IY39118: The following changes should be made to the High Availability Cluster Multi-Processing Servers on AIX section of Appendix B, “Additional Notes for AIX” in the Tivoli NetView for UNIX Configuration Guide:
  - A statement should be added that the Tivoli NetView product is not supported with high availability cluster multi-processing (HACMP/ES) or the High Availability Geographic Cluster system (HAGEO).
  - The following bullets should be added at the end of the first paragraph:
    - You must run full Tivoli NetView database maintenance after a failover (/usr/OV/bin/ovtopofix -A and /usr/OV/bin/ovmapcount -a) as part of your startup script.
    - If database maintenance does not fully repair the damage to the Tivoli NetView database, you must restore the database from a valid backup.

- The /etc/netnmrc installation entry /etc/rc.tcpip AIX (only), in Appendix C of the Tivoli NetView for UNIX Configuration Guide should be /etc/inittab (AIX only).

This dispsub man page has been updated.

- The online help for the SNMPV2 load command is not valid, because the function it describes is obsolete.

- The “Discovery, netmon.seed, Netmon Seed File Editor” section of the Tivoli NetView Release Notes, Version 7.1, should state that token entries (for example, $10.1.1.2) are not discovery seeds. A discovery seed must be specified (for example, 10.1.1.2) for the node to be discovered.
The probabilistic mode description in the “RFI Configuration” section of the 
*Tivoli NetView for UNIX Configuration Guide* should include the following 
information:

Probabilistic Mode: This mode is based on a dynamic statistical analysis of a 
subnet, rather than a deterministic evaluation of the routers. This mode only 
determines if the subnet can be reached and does not attempt to identify the 
root cause of the problem. Routers are ignored and a probabilistic algorithm is 
used to analyze the subnets. If the netmon daemon determines that an interface 
is in a Down state, netmon issues a series of status polls. If none of the polls are 
successful, the subnet is determined to be unreachable, and the netmon daemon 
suppresses all subsequent Node Down events for the unreachable subnet. Node 
events are issued instead of Router events; for example, a Node Down event is 
issued rather than a Router Down event.

Probabilistic mode is disabled if the subnet contains less than the configured 
number of managed devices, and this mode is automatically used if the RFI 
function is enabled and the subnets have no managed routers. You can fine-tune 
this algorithm using properties defined in the netmon.conf configuration file. See 
the `/usr/OV/conf/netmon.conf` file for more information.

The “Restoring from a backed-up Database” section of the 
*Tivoli NetView Release Notes*, Version 7.1 should have the following step added after step 4 and the 
remaining steps renumbered as follows:

1. (No change)
2. (No change)
3. (No change)
4. (No change)
5. On UNIX systems, if the database is being restored to system that has a 
different IP address or host name, run the following command:
   `/usr/OV/service/reset_ci`
6. Ensure that the directory structure is the same as before.
7. Type `ovstart` on a command line and restart the NetView application.

APARs IY44811 and IY44818: The `snmpColDump` example in the 
*Tivoli NetView for UNIX Administrator’s Reference* for keeping the last 2000 entries in the 
`1MinLoadAvg` file is confusing and should be replaced by the following 
examples:

For AIX systems:

```bash
# In the awk program:
# $5=startTime, $6=endTime, $7=dottedIPAddr, $4=value
snmpColDump -tTI 1MinLoadAvg | tail -2000 | 
awk '{printf("%d\t%d\t%s\t%lg\n",$5,$6,$7,$4)}' | 
snmpColDump -r - 1MinLoadAvg
```

For Linux and Sun systems:

```bash
# In the awk program:
# $6=startTime, $7=endTime, $8=dottedIPAddr, $5=value
snmpColDump -tTI 1MinLoadAvg | tail -2000 | 
awk '{printf("%d\t%d\t%s\t%lg\n",$6,$7,$8,$5)}' | 
snmpColDump -r - 1MinLoadAvg
```

Security” section, under “Additional Information” the text should be changed as 
follows:

Use of the following characters in the Web Console Security is not permitted. In 
User Name, User Password, Role Name and Scope Name: tab, <enter>, space, 
equals (=), colon (:)

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Replace this text with the following text:

Use of the following characters in the Web console security is not allowed. Do not use the following symbols in the user password: tab, <enter>, space, equals (=), and colon (:). Do not use the following symbols in the user name, role name, and scope name: ampersand (&), asterisk (*), question mark (?), semicolon (:), colon (:), comma (,), exclamation mark (!), equals (=), close parenthesis ()), open parenthesis (()), backslash (\), vertical bar (|), backquote (`), single quote ('), double quote ("), forward slash (/), less than (<), greater than (>), space, tab, <enter>, and linefeed.

- Some softcopy links between books might not function correctly. If a link does not function correctly, open the appropriate book and then go to the section that you want to use.

Product Notes

- This product contains commands, scripts and tools that are not documented in the Tivoli NetView for UNIX library or online help which are intended for use by IBM service representatives, and are not supported for general customer use.
- If installing through the Tivoli Framework, install the Tivoli NetView Framework patch on all systems where Tivoli NetView is being installed. Both the Tivoli Framework Installation Patch and the Tivoli NetView Framework Patch must be installed on the Tivoli management region server and on the managed nodes where the Tivoli NetView product will reside.
- Nodes with a subnet mask of 0.0.0.0 might not be discovered. The standard solution for this problem is to set the correct subnet mask on devices supporting SNMP. The Tivoli NetView product relies on the subnet mask to create correct network objects and to place the interfaces in the correct subnets. However, if it is not possible to modify the device, use the loadhosts utility to specify the correct subnet mask and discover these objects as follows:
  1. Create a loadhosts.tmp file that contains entries for nodes with zero subnet masks, for example, 111.22.33.444 my.company.com. Note that loadhosts.tmp is an arbitrary file name; you can use any file name that you want to use.
  2. Enter the following command to stop the netmon daemon: ovstop netmon
  3. Enter the following command using the correct subnet mask: loadhosts -m 255.255.255.0 -P < loadhost.tmp
  4. Enter the following command to start the netmon daemon: ovstart netmon
  5. Find and manage the network symbol on the IP Internet submap.
  6. Either drill down to find the new nodes and demandpoll each device to complete the discovery, or wait for the daily poll to do this.

See the Tivoli NetView for UNIX Administrator’s Reference for more information about the loadhosts utility.
- If the Tivoli NetView Web server encounters out-of-memory errors, the following dialog is displayed on every Web console that is attached to that Web server:

  The Web Server is unstable.
  Results are unpredictable.
  Contact the NetView administrator.

In addition to these error messages, stack traces are displayed in the window that launched the Web console. These stack traces usually contain a 503 error code (for example, “received bad HTTP response code ‘503’”).
If this occurs, the Tivoli NetView administrator should look at /usr/OV/www/logs/netview servlets.log for any occurrences of the string OutOfMemoryError:

If such a string is found, the administrator should boost the memory setting that the Web server uses. This can be done as follows:

1. Stop the Web server using the **ovstop webserver** command.
2. Modify the file /usr/OV/www/bin/jetty.sh by changing the “-Xmx64m” string found on the JAVA_OPTIONS line to be something larger, like “-Xmx96m”. The “Xmx” setting is used to specify the maximum size of Java’s memory allocation pool. The Tivoli NetView program ships with the default set to “-Xmx64m” (64MB).
3. Start the Web server using the **ovstart webserver** command.

- The **Use this Seed File for Discovery** menu selection has been removed from the Options menu of the Seed File Editor. You are now prompted to make a seed file active whenever the file is saved. This avoids the confusion that is caused when a seed file becomes activated without your knowledge.
- The Web console should be upgraded to Version 7.1.4 on all systems. However, doing so will result in the loss of the list of hosts to which the Web console has been previously connected that is displayed in the login dialog. This list can be retained by saving away the file lib/properties/DefaultHostAndPort.properties in the Web console installation directory before upgrading, and then copying it back afterwards, overwriting the newly-installed version.
- The following functions have not been included in the Linux Intel platform release of Tivoli NetView for UNIX Version 7.1.4.
  - Agent Policy Manager (APM), C5eui, and MLM (Linux will have limited support for remote MLM configuration).
  - The tralerld and spappld daemons (the preferred method is to use MSM/IP and trap forwarding).
  - Cisco Adapter
  - Native Client Support (the Java Console is replacing the native client mechanism).
  - XMP API support (for CMIP and CMOT applications)
  - RIM Database Support (there is no support for Tivoli management region RIM).
  - Tivoli management region installation (The Linux installation is Tivoli Framework independent).
  - Tivoli Integration Pack for Tivoli NetView (TIPN supports integration with Tivoli management region framework components).
  - Backup Manager.
- In general, devices that support the dot1dBridge MIB are supported by the Diagnostics Switch Management views.
- The MPLS Management views are supported on devices that support the MPLS LSR MIB.
- The **nvTurboDatabase** utility is designed to compress the object database. After many additions and deletions of objects, the database can get very fragmented. Using this utility can reduce the disk space used. This utility became available in NetView Version 6.0.3, but was omitted from the release notes. The **nvTurboDatabase** utility can be found in the /usr/OV/service directory and more information about it can be found under the “dbmcompress Utility” section of the *NetView for UNIX Configuration Guide*, Version 7.
• If you encounter any problems with the new telnet option in the Web console, verify that the TELNET_COMMAND path is correct in the /usr/OV/bin/nvwc.sh file.

• Starting with Tivoli NetView, Version 7.1.1, the Tivoli NetView Comprehensive Network Address Translator (CNAT) components formerly installed as an add-on to Tivoli NetView from the Comprehensive Network Address Translator product distribution (product number 5698-NAT) are now part of the standard Tivoli NetView product.

The CNAT components (for example, the CNAT base component and the CNAT MibScanner) can be found on the separate Tivoli Comprehensive Network Address Translator CD.

The nvCNAT components add the CNAT Operations menu options under the Tools menu. These menu options enable Tivoli NetView to discover all CNAT devices in your network and to automatically download all information necessary to identify all nodes in the network that Tivoli NetView has discovered which have IP addresses that have been translated by the CNAT devices. Node symbols (and the affected interface symbols) that have had their IP addresses translated by a CNAT system will have a prefix and suffix of two asterisks (**) added to the label name. For example, if node “systema.company.com” has an interface with an IP address that has been translated by a CNAT, the node’s symbol label is modified to “**systema.company.com**”, and the corresponding interface symbol label will also contain the prefix and suffix of two asterisks (**) that was added.

If you already have nvCNAT components installed, they will automatically be migrated if you are upgrading to Tivoli NetView for UNIX, Version 7.1.4, and the nvCNAT uninstaller is automatically disabled to prevent accidental loss of nvCNAT capability.

For additional nvCNAT product information, see the Tivoli Comprehensive Network Address Translator Guide and Reference on the CNAT component CD.

• To send Tivoli NetView Web console log messages to a file, edit one of the following files:
  – If running from /usr/OV/bin/nvwc.sh, edit this file:
    /usr/OV/www/webapps/netview/log4j.properties
  – If running from %NVWC_HOME%/bin/nvwc.sh, edit this file:
    %NVWC_HOME%/lib/log4j.properties
  – Edit log4j.properties by adding the following lines (after the existing ConsoleAppender):
    log4j.appender.R=org.apache.log4j.RollingFileAppender
    # Specify the file where you want the output to go.
    log4j.appender.R.File=/usr/OV/www/logs/webconsole.log
    log4j.appender.R.MaxFileSize=100KB
    # Keep one backup file
    log4j.appender.R.MaxBackupIndex=1
    log4j.appender.R.layout=org.apache.log4j.PatternLayout
    log4j.appender.R.layout.ConversionPattern=%d{ISO8601} [%t] %-5p %c %x - %m%n
  – Modify the line:
    log4j.rootCategory=INFO, A1
  to be:
    log4j.rootCategory=INFO, A1, R
Note: This adds the new file appender to the category.

To turn on debugging for a particular Tivoli NetView category or component, modify the line for that particular category (for example, snmp) as shown.

Change:

```
log4j.category.com.tivoli.netview.snmp=INFO
```
to:

```
log4j.category.com.tivoli.netview.snmp=DEBUG
```

- Additional information about the hot backup function can be found in file `/usr/OV/doc/HotBackup.htm`.
- The Tivoli NetView for UNIX documentation cannot be displayed using the version of the Netscape browser that is shipped with the AIX operating system. To view this documentation, get the latest version of the browser from the Netscape Web site.
- Automatic space checking is incomplete when performing an upgrade installation. On an upgrade installation, space is required both for the backup directory `/usr/OV.back.vxxx` (where `x` is the version and release you are upgrading from) and the new `/usr/OV` directory. The prerequisite checking script checks for space for each directory separately, but it does not check for enough space if the directories are installed in the same file system. This can cause the space checking to succeed when there is not enough space for both directories in the same file system.

As a workaround, if the `/usr` and `/usr/OV` directories are in the same file system, issue the following command to determine the additional space requirements: `/usr/OV/install/tools/nvp.vxxx test` (where `x` is the version and release you are upgrading from). Add the additional requirements to the space requirements listed in “System Requirements” on page 24 for your operating system.

- System host names must conform to the ARPANET rules documented in RFC 1035 as follows:
  - The host name must begin with a letter.
  - The host name must end with either a letter or a number.
  - A host name can contain only letters, numbers, and hyphens (-). See RFC 1035 for more information.

- The Tivoli NetView for UNIX product running on the AIX, Version 5.2 operating system only supports the snmpdv1 version of the snmp daemon. Use the following procedure to determine which version of the daemon is running on your system and change the snmp daemon version:
  1. Enter the following command:
     ```
     ps -eo comm | grep snmpd
     ```
     One of the following is displayed: snmpdv3ne, snmpd64v1, or snmpdv1.
  2. If snmpdv3ne or snmpd64v1 is displayed, enter the following command to change the snmp daemon version:
     ```
     /usr/sbin/snmpv3_ssw -1
     ```
     This command changes the symbolic links so that the snmpdv1 version of the snmp version is used, and it stops and restarts the snmp daemon. Note that the -1 option specifies the snmpdv1 version.
A shell stack segment that is too small might cause a core dump when you run the `nvdbformat` command. Issue the following command to increase the size of the shell stack segment to avoid this problem:

```
ulimit -s unlimited
```

The daemon auto-restart function is disabled after an attempt is made to restart a daemon if a poll determines that the daemon is still in the Down state.

The online help facility provides task and user interface information. Note that the Netscape product is required for correct operation of the online help.

If you issue the `ovstatus` command within 30 seconds after running the `ovstop trapd` command, the status might incorrectly be displayed as Done instead of Not Running. You can ignore the incorrect status.

The integration of the Tivoli NetView and Tivoli Enterprise Console products that enables a Tivoli NetView user to display associated Tivoli Enterprise Console events for a selected object does not function correctly if the Tivoli Enterprise Console, Version 3.7 or Version 3.8 Java version of the event console is installed on the Tivoli NetView server. This function requires access to the Tivoli Enterprise Console wtdumper utility, which is not installed with the Tivoli Enterprise Console Java version of the event console. To restore this function, install the Tivoli Management Environment® version of the Tivoli Enterprise Console, Version 3.9 console, which includes the wtdumper utility. The function does not work if the non-Tivoli Management Environment version of the Tivoli Enterprise Console is installed.

In a Tivoli NetView distributed network environment (client/server), if you have Network File System (NFS) security enabled on the Tivoli NetView server, you must also have NFS security enabled on the Tivoli NetView client and vice versa. Otherwise, you will be unable to logon to Tivoli NetView security on the client using the `nvauth` application. Enter the following commands to start NFS security:

```
nfso -o portcheck=1
nfso -o nfs_use_reserved_ports=1
```

CiscoWorks 2000 does not currently support the Solaris, Version 2.9 operating system.

---

### Installing and Using the Tivoli NetView Language Kits

This section provides important information about installing and using the Tivoli NetView for UNIX, Version 7.1.4 Language Kit.

Read this section thoroughly before installing or using the Language Kit.

Tivoli NetView for UNIX, Version 7.1.4 provides new language kits. If you are upgrading from a previous version of Tivoli NetView, with the Language Kit, you must install the version 7.1.4 Language Kit.

### Supported Languages:

**AIX:**
- Korean EUC
- Japanese EUC
- Japanese Shift JIS
- Simplified Chinese EUC

**Solaris and Linux:**
Language Kit Installation Requirements

The following hardware and software prerequisites must be met before installing the Tivoli NetView Language Kits:

- Tivoli NetView for UNIX, Version 7.1.4 base English kit
- All Linux operating systems require KDE Version 3
- 110 MB disk space on the /usr/OV partition per language (not including English). Note that a portion of this space is required by the installation process and is released afterwards.
- The baekmuk-ttf font package is required to run the Korean Web console on SuSE 7.2.

Note: The Tivoli NetView for UNIX, Version 7.1.4 Language Kit was tested on RedHat 7.2 and SuSE 7.2 using KDE Version 3 and the version of GNOME that is part of the base distribution.

Installing the Tivoli NetView Language Kits

The following checklist provides the list of tasks you must complete to successfully install the Tivoli NetView Language Kits.

1. Set the LANG environment variable to the English locale.
   
   See “Setting the LANG and LC_MESSAGES Variables” in the Tivoli NetView Release Notes, Version 7.1 for information about how to set this environment variable. This variable must be set to the English locale when installing the Tivoli NetView base English kit (client or server). On the AIX operating system, the required English locale has been changed to en_US for the Tivoli NetView product. You must set the LANG and LC_MESSAGES environment variables to this locale before you install the Tivoli NetView product.

2. Install the Tivoli NetView for UNIX, Version 7.1.4 base English kit.

   Note: See the additional operating system restrictions in the previous section before you begin this task.

   The Tivoli NetView base kit must be installed before the Language Kits. The Language Kits are installed on top of the base kit. This kit is located on the Tivoli NetView for UNIX, Version 7.1.4 CD that is included with the NetView distribution.

   For more information about how to install the base kit, see the Tivoli NetView Release Notes, Version 7.1.

3. If you are installing the Language Kit on a Tivoli NetView client, you must first disconnect the client from the server. The Language Kit installation will fail if the client is connected to a server. If you have connected the Tivoli NetView client to a server, you must disconnect it before installing the Language Kit on the client. Use the Client Setup application (clientsetup) to remove the server from the client before installing the Language Kit (Configure —> RemoveServer).

4. Stop all Tivoli NetView native consoles. If you have started the native console on the server, or on any clients, you must shut them down before installing the Language Kits.
5. Install the NetView Language Kits.
   In a non-Framework environment, from the command line, change to where
   the CD is mounted and enter:
   
   ```bash
   ./installns -k kit -l locale
   ```

   where:

   **kit**
   
   Is the type of installation required:
   · CLIENT (Not available on Linux.)
   · SERVER
   · BOOKS

   **locale**
   
   Is the locale of the server:

   ```bash
   kit locale
   ```
   · ko (Korean)
   · zh (Chinese)
   · ja_euc (Japanese EUC)
   · ja_sjis (Japanese Shift JIS)

   To install the Language Kit in a Tivoli Management Framework, see “Installing
   the NetView Program in a Tivoli Management Framework Environment” in the

   Using the Tivoli Management Framework, choose the appropriate kit from the
   Select Product to Install list:

<table>
<thead>
<tr>
<th>Platform</th>
<th>Type of Installation</th>
<th>Kit Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX and Solaris</td>
<td>Simplified Chinese Server</td>
<td>Tivoli NetView Simplified Chinese Server Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Simplified Chinese Client</td>
<td>Tivoli NetView Simplified Chinese Client Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Korean Server</td>
<td>Tivoli NetView Korean Server Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Korean Client</td>
<td>Tivoli NetView Korean Client Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Japanese EUC Server</td>
<td>Tivoli NetView Japanese EUC Server Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Japanese EUC Client</td>
<td>Tivoli NetView Japanese EUC Client Version 7.1.4</td>
</tr>
<tr>
<td>AIX only</td>
<td>Japanese Shift JIS Server</td>
<td>Tivoli NetView Japanese Shift JIS Server Version 7.1.4</td>
</tr>
<tr>
<td>AIX only</td>
<td>Japanese Shift JIS Client</td>
<td>Tivoli NetView Japanese Shift JIS Client Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Simplified Chinese Books</td>
<td>Tivoli NetView Simplified Chinese Books Version 7.1.4</td>
</tr>
<tr>
<td>AIX and Solaris</td>
<td>Korean Books</td>
<td>Tivoli NetView Simplified Korean Books Version 7.1.4</td>
</tr>
</tbody>
</table>
The online books are installed as a separate kit. The kit names are given in the table above. Before installing any of the language books kits, you must first install the Tivoli NetView Books 7.1.4 kit from the Tivoli NetView for UNIX, Version 7.1.4 CD and the base language kit for the operating system.

Note that although two Japanese locales are supported on the AIX operating system, there is just one set of Japanese books that is used for both these locales.

6. If you have installed Tivoli NetView Clients, configure Client/Server access. See “Configuring Client/Server Access” in the Tivoli NetView for UNIX Configuration Guide for information about how to configure Client/Server access.

Note: Client and server systems must be set to the same code set. They must also be on the same operating system (heterogeneous client/server between the AIX operating system and Solaris is not supported for the Language Kits).

**LANG and LC_ALL Environment Variable Settings**

You must have the LANG and LC_ALL environment variables set to the appropriate locale in your current session when you start the Tivoli NetView native console or any other Tivoli NetView applications. The following table lists the supported LANG and LC_ALL environment variable settings for each code set and platform:

<table>
<thead>
<tr>
<th>Codeset</th>
<th>AIX</th>
<th>Solaris</th>
<th>Linux</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese EUC</td>
<td>ja_JP</td>
<td>ja</td>
<td>ja_JP</td>
</tr>
<tr>
<td>Japanese Shift JIS (AIX only)</td>
<td>Ja_JP</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
<tr>
<td>Korean EUC</td>
<td>ko_KR</td>
<td>ko</td>
<td>ko_KR</td>
</tr>
<tr>
<td>Simplified Chinese</td>
<td>zh_CN</td>
<td>zh</td>
<td>zh_CN</td>
</tr>
</tbody>
</table>

Note: Simplified Chinese (zh_CN) is available, but it is not fully supported.

**Upgrading from a Previous Tivoli NetView Language Kit**

If you upgrade from a previous version of the Tivoli NetView product with the Language Kit installed to version 7.1.4 with the Language Kit installed, you might have to update any customizations you made to the language files.

**Migrating Security Files**

The Tivoli NetView Security Registration Files are not migrated when upgrading from a previous version of the Tivoli NetView product. Any user modifications to the standard Tivoli NetView security registration files, located in the following directories, will not be migrated:

```
/usr/OV/security/$LANG/Domains/registration
/usr/OV/security/$LANG/Domains/SrAdmin
```

These files must be manually modified. The old versions of these files are located in your backup directory. The sample Oper group security registration files are no longer provided for the Language Kits. To create these files for the Oper group, use
the nvsec_admin application to copy from the SrAdmin group and then modify the permissions of menus and applications to which you want to limit access.

If NetView Applications or Web Consoles Display in English

There are some restrictions in Tivoli NetView on the information that is translated. See “Translation Support” on page 55 for more information.

On Solaris, applications that are run on the Tivoli NetView server and are displayed on the client, such as the SNMP Configuration window, will display in English. See “Client/Server” on page 54 for more information about this problem.

If you experience other problems displaying Tivoli NetView applications in your language, follow these steps to solve the problem:

1. Stop all Tivoli NetView graphic applications on the server and any clients.
2. Check that the following environment variables are set correctly in your current session and for the root user on both the Tivoli NetView client and server:
   - NLS_PATH - this variable must contain the following string before any language specific directories or cat files:
     /usr/lib/nls/msg/%L/%N:/usr/lib/nls/msg/%L/%N.cat
   - XUSERFILESEARCHPATH - this variable must contain the following string:
   - LANG and LC_ALL must be set to the correct code set (as listed in the code set table on the previous page). Use the locale command to display the current values.

   The following system files can affect variable settings for all users:
   - /etc/profile
   - /usr/ov/bin/NVenvironment
   - /etc/environment (the AIX operating system only)
   - Files in the /etc/default directory (Solaris only)

   The NLS_PATH and XUSERFILESEARCHPATH variables can become very large if you have scripts running in your shell that are continuously appending to the existing path. If this occurs, these variables might become unusable by the shell, causing application text to be displayed in English. If you notice that either of these variables has an extremely long path list with duplicates, reset the variable to eliminate duplicate entries from the path list, and run scripts that append to these variables in your .profile or .login file instead of your .kshrc or .cshrc script.

3. Check that the system environment is set correctly on the Tivoli NetView client and server.
   - On the AIX operating system, check that the cultural convention, language, and keyboard are set to the correct code set using SMIT (Manage Language Environment...Change/Show Primary Language Environment).
   - On Solaris, check that the LANG and LC_ALL environment variables are set to the correct code set in the /etc/defaults/init file.

4. If you made any changes to system files in 2 or 3, start the machine so these changes will take effect.
   - If step 1 through step 4 did not solve the problem, then you might be inadvertently starting the Tivoli NetView daemons in the English locale by using...
the Tivoli Framework to stop and start the daemons, or you might be performing other administrative tasks that restart the daemons. The Server Setup application (serversetup) is the recommended method for restarting the daemons and other administrative tasks. You can also use SMIT on the AIX operating system. Use the `ovstatus nvsecd` command to determine whether the daemons are starting in English. If the last message field for the nvsecd daemon is displayed in English, they are starting in English.

If the daemons are starting in English, use these steps to restart them with the correct locale:

1. On the AIX operating system only, stop and restart the inetd daemon:
   ```
   stopsrc -s inetd
   startsrc -s inetd
   ```

2. Stop and then restart the Tivoli NetView daemons:
   ```
   /usr/OV/bin/ovstop
   /usr/OV/bin/ovstop nvsecd
   /etc/netnmrc (AIX)
   /etc/init.d/netnmrc (Solaris and Linux)
   ```

### Installation Utility Scripts

The following utility scripts are provided in the TOOLS directory on the Tivoli NetView language support CD:

<table>
<thead>
<tr>
<th>Script Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>deinstall.ja_euc</td>
<td>Uninstall the NetView Japanese EUC client or server kit and books</td>
</tr>
<tr>
<td>deinstall.ja_sjis</td>
<td>Uninstall the NetView Japanese Shift JIS client or server kit and books (the AIX operating system only)</td>
</tr>
<tr>
<td>deinstall.ko</td>
<td>Uninstall the NetView Korean client or server kit and books</td>
</tr>
<tr>
<td>deinstall.zh</td>
<td>Uninstall the NetView Simplified Chinese client or server kit and books</td>
</tr>
</tbody>
</table>

### Language Kit Restrictions

This section describes restrictions and known problems for the Tivoli NetView Language Kits.

**Client/Server**

Heterogeneous client/server between the AIX operating system and Solaris is not supported for the Language Kits.

Remote X display is not supported between the AIX operating system and Solaris because of font incompatibilities.

The Tivoli NetView client, server, and Web console systems must be set to the same language and code set. Running the Tivoli NetView client and server in mixed languages is not supported. Unreadable characters are displayed in the maps and menus, and some of the functions in the Web console will not work.

To display Tivoli NetView applications on a remote X display, the system on which the application is being displayed must also have the appropriate locale installed and set. Otherwise, unreadable characters are displayed in the maps and menus.

On Solaris, applications that are run on the Tivoli NetView server and are displayed on the client, such as the SNMP Configuration window, display in English. These applications are displayed correctly on the server for Solaris, but are not displayed correctly on both the client and server for the AIX operating system.
Problem Starting Daemons from the Tivoli Desktop
When you start the Tivoli NetView daemons from the Tivoli Desktop, they are started in the English locale. The workaround is to start the daemons using the Server Setup application (you can also use SMIT on the AIX operating system) or from the command line using the /etc/netnmrc (the AIX operating system) or /etc/init.d/netnmrc (Solaris and Linux) scripts with the correct locale set. The Server Setup application (or SMIT on the AIX operating system) is the recommended method of performing administrative tasks.

Translation Support
Programmer commands and functions, advanced administrative tasks, information primarily used by Tivoli Support for problem diagnosis, and SNMP data (which is by its nature English only) are not translated or enabled.

The following information is not translated:
- Base and Language Kit installations
- API definitions, man pages, command line utilities and program samples
- Database field names and enumerated values
- Map, submap and snapshot names
- SmartSet names and descriptions
- Symbol class/subclass names and status values
- MIB object names, descriptions, and enumerated values
- Trap names and descriptions
- Event information
- Event Source, Event Attributes, and Agent values
- Administrative support scripts used by Server Setup, Client Setup and SMIT are not fully translated
- NetView configuration menus in the Tivoli Framework
- Files in the /usr/OV/conf/$LANG directory, except for explore.conf
- Tracing and logging messages, with the exception of some messages in the /usr/OV/log/netview_<user>.log file
- Publications not listed in “Online Help and Books” on page 56
- Copyright screen and on-line help for the Mid-Level Manager Configuration Application
- The default Role names in Web console security
- There are no translated versions of the Mid-Level Manager application.

The following applications are not DBCS enabled:
- The Agency Policy Manager (APM) and SmartSet Editor are translated but are not DBCS enabled. SmartSet names, descriptions, and other information entered in these two applications must be English text.
- The Ruleset Editor is translated but not DBCS enabled. Event attributes and other field names must be entered in English.
- The Locate window supports multi-byte characters for exact matching but not when using regular expressions.
- The File —> View Report application, which is launched from the Event Display, is not DBCS enabled. You cannot view reports created using File —> Create Report that contain multi-byte characters.
- Map, submap, and snapshot names must be entered in English for all NetView windows. Multi-byte names are not supported.
Language Kit Notes

This section provides general product information for the Language Kits.

Language Kit Input Method on Linux
The default input method for the Japanese language kit on the Linux platform is kinput2. To use a different input method, edit all of the files in the /usr/OV/app-defaults/ja_JP directory and change the string kinput2 to the name of the input method that you want to use.

The Korean and Simplified Chinese language kits are not shipped with a default input method specified. Use the following procedure to specify an input method:

- Uncomment the line !*inputMethod: <input method> and replace <input method> with the input method that you want to use. For example, to use the xcin input method for simplified Chinese, specify:
  
  *inputMethod: xcin

Online Help and Books
You must install the Tivoli NetView Books 7.1.4 component and the specific language Tivoli NetView books component to use the online books.

The following publications are translated:
- Tivoli NetView for UNIX Configuration Guide
- Tivoli NetView Web Console User’s Guide
- Tivoli NetView for UNIX User’s Guide for Beginners
- Tivoli NetView for UNIX Administrator’s Guide
- Tivoli NetView for UNIX Administrator’s Reference

Note: KDE Version 3 is required on all Linux systems to use the online books.

All other books are in English only.

Web Browser Configuration for use with the NetView Web Console
If you are using the Netscape Communicator or Navigator to access the Tivoli NetView Web console, configure the following settings in the Netscape product:

- Specify the font to use for the Unicode encoding, Edit —> Preferences —> Appearances —> Fonts
- Select the UTF-8 character set, View —> Character Set —> Unicode (UTF-8)
- For more information about these settings, go to http://home.netscape.com/eng/intl/basics.html

If you are using Internet Explorer, follow these steps to configure the fonts:

- Select Tools —> Internet Options —> Fonts, then select from Language script list, and choose a corresponding Web page font and Plain text font. If the page still doesn’t display correctly, click View —> Encoding —> Unicode (UTF-8).

Monitor Resolution
It is important to have a monitor with the appropriate resolution (as specified in the Tivoli NetView Release Notes, Version 7.1). The recommended dimensions are
1280 x 1024 pixels or higher. If you display the Tivoli NetView product on a monitor with a lower resolution, the text and windows are very large, and some dialogs could become truncated.

**Using NetView Security**
You must have the correct locale set in your current session when invoking the `nvauth` command to log into security, or the `nvsec_admin` command to perform security administration tasks. Use the `locale` command to determine your current locale settings.

If your locale is not set to the appropriate language codeset, you will not be able to log into security using nvauth. The nvsec_admin application uses the current locale to determine which set of users, groups, and security registration files to modify.

**Ping Tool Information in Wrong Panel with non-English on the AIX Operating System**
On the AIX operating system, the Tivoli NetView ping tool might display regular command output in the window reserved for error messages. This has been noticed especially for Korean and Chinese AIX operating system locales and might be related to a defect in the behavior of the operating system-provided ping utility.

**Chinese Character Display Problems under Solaris**
Under Solaris 8, certain Chinese characters (for example, the double-byte dash character) cannot be displayed correctly in the Tivoli NetView Web console. This applies to input as well as display fields. This problem has not been observed on other platforms using the same Web console code and might be related to the Solaris JRE implementation.

**Xcolormap Exhaustion in UNIX Environments**
In all UNIX environments, Xcolormap exhaustion can cause display problems when running the Tivoli NetView application since it shares X colors with other X applications. As a result, menu labels under the mouse cursor might become illegible because of diminished contrast between highlight color and menu label text.

This problem is especially noticeable on the AIX operating system.

You can avoid this problem by making sure that the Tivoli NetView product is started prior to any other color-intensive X applications, such as Netscape Communicator.

**Linux X Server Configuration**
On Linux, it is important to configure the X server to use 24 bit color. Using less color might result in run time problems, for example, fatal X errors.

**Font Quality Issues with Web Console**
The JREs for all platforms for which the Tivoli NetView application offers National Language Support use font settings which can result in the use of unattractive fonts in non-English environments.

To overcome this problem, use the IBM World-Type font set. Contact your customer representative for information about how to obtain WorldType fonts and how to configure your JRE to use these fonts.

**Tivoli Enterprise Console Language Kit Compatibility**
If you are forwarding events to a version of the Tivoli Enterprise Console that is earlier than version 3.7, add the following required flags to the `/usr/OV/conf/tecint.conf` file:
• Set the **Pre37Server** flag to YES by adding the entry `Pre37Server=YES`.

• Set the **Pre37ServerEncoding** flag to the Tivoli encoding at the event server. See the *Tivoli Management Framework User’s Guide* for more information about Tivoli text encoding support.

Stop and restart the nvserverd daemon by entering the following command:

```
/usr/OV/bin/ovstop nvserverd
/usr/OV/bin/ovstart nvserverd
```
Appendix A. Hardware, Memory, and Tuning Recommendations

This section provides information to help you determine the hardware requirements for the system on which the Tivoli NetView server will be installed. Tuning recommendations are also provided. Recommendations are provided for the following network size categories:

- Small (See “Small Network Hardware Recommendations” on page 60)
- Medium (See “Medium Network Hardware Recommendations” on page 61)
- Large (See “Large Network Hardware Recommendations” on page 62)
- Very Large (See “Very Large Network Hardware Recommendations” on page 63)

Perform the following tasks to use the information in this section:
1. Review the installation descriptions to determine the size of your network.
2. Review the information in “General System Hardware Recommendations”.
3. Determine your system hardware requirements for your network size category.
4. Review the tuning information to maximize your system performance.

Notes:
1. All of the recommendations in this appendix were derived under ideal laboratory conditions. Production customer environments typically yield less than optimal performance. Therefore, you should only use the information as a general guideline.
2. The recommendations in this appendix are for UNIX systems only. Do not apply these recommendations to Windows operating systems.

Assumptions Used for Hardware Recommendations

The following assumption were used to determine the hardware recommendations in this section:

- Tivoli NetView is the single major application running on the system.
- One local operator is logged on. A local operator is an operator that is logged on to the Tivoli NetView server using the console for that system. To support a local console on the Tivoli NetView server, a graphics adapter (either a graphics card or a graphics adapter that is integrated into the system board) must be installed on the Tivoli NetView server.
- No customized scripts are running.
- The system response time is excellent, for example, the response time for a ping is 10-20 milliseconds.
- The domain name system (DNS) response time must be excellent.
- It is recommended that you do not place hundreds of entries in your etc/hosts file.

General System Hardware Recommendations

The following recommendations apply to all networks regardless of the network size:

- Individual processor speed is a critical factor when you are selecting and tuning your system. The Tivoli NetView server should be installed on a system with
processor speeds that are currently being marketed. (For example, RS/6000® systems with 1.2 GHz, Power 4 processors or Intel systems with 2.4 GHz, Xeon processors.)

- A 100 MB Ethernet capability exists.

**Small Network Hardware Recommendations**

This section provides information about small networks.

**Installation Description**

Use the information in this section to determine if your network is categorized as a small network. If you decide that your network belongs in this category, use the information in “Hardware Recommendation” to determine your system hardware requirements and the information in “Tuning Tips” on page 61 to tune your system.

**Table 8. Small Installation Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of managed interfaces</td>
<td>10,000 or less</td>
</tr>
<tr>
<td>Number of Web consoles</td>
<td>1-5</td>
</tr>
<tr>
<td>Number of X operators¹</td>
<td>1-2</td>
</tr>
</tbody>
</table>
| Average system workload      | • The default status monitoring interval of five minutes is used for all resources.  
                               • Limited SNMP data collection is being performed.  
                               • The Tivoli NetView product is communicating with another product, for example, the Tivoli Enterprise Console product. |

**Note:**¹ See “Memory Recommendations” on page 65 for a description of X operators.

**Hardware Recommendation**

Use the information in this section if you have determined that you have a small network. Memory and disk space requirements can vary depending on many factors. See “Additional Memory and Disk Space Recommendations” on page 65 for more information about determining system memory and disk space requirements.

**Table 9. Hardware Recommendations**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of processors</td>
<td>1 or 2 ¹</td>
</tr>
<tr>
<td>Total system memory</td>
<td>512-1024 MB</td>
</tr>
<tr>
<td>Memory the Tivoli NetView product will use</td>
<td>216-370 MB</td>
</tr>
</tbody>
</table>

**Note:**¹ Two processors are recommended if you are managing 4,000 or more interfaces.
Tuning Tips
Small networks do not require any special tuning procedures. Use the default product configuration.

Medium Network Hardware Recommendations
This section provides information about medium networks.

Installation Description
Use the information in this section to determine if your installation is categorized as a medium network. If you decide that your installation belongs in this category, use the information in “Hardware Recommendation” to determine your system hardware requirements and use the information in “Tuning Tips” to tune your system.

Table 10. Medium Installation Description

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of managed interfaces</td>
<td>10 000 - 24 999</td>
</tr>
<tr>
<td>Number of Web consoles</td>
<td>1-10</td>
</tr>
<tr>
<td>Number of X operators¹</td>
<td>2-10</td>
</tr>
<tr>
<td>Average system workload</td>
<td>• The default status monitoring interval of five minutes is used for all resources.</td>
</tr>
<tr>
<td></td>
<td>• Limited SNMP data collection is being performed.</td>
</tr>
<tr>
<td></td>
<td>• The Tivoli NetView product is communicating with another product, for example, the Tivoli Enterprise Console product.</td>
</tr>
<tr>
<td></td>
<td>• An average of one or two traps per minute is being received.</td>
</tr>
</tbody>
</table>

Note: ¹ See “Memory Recommendations” on page 65 for a description of X operators.

Hardware Recommendation
Use the information in this section if you have determined that your network is categorized as a medium network. Memory and disk space requirements can vary depending on many factors. See “Additional Memory and Disk Space Recommendations” on page 65 for more information about determining system memory and disk space requirements.

Table 11. Hardware Recommendations

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of processors</td>
<td>2 or 4</td>
</tr>
<tr>
<td>Total system memory</td>
<td>1 or 2 GB</td>
</tr>
<tr>
<td>Memory the Tivoli NetView product will use</td>
<td>370-670 MB</td>
</tr>
</tbody>
</table>

Tuning Tips
Use the information in this section to tune your medium system to obtain optimum performance:
• Configure the size of the ovwdb cache to be slightly larger than the number of objects in the database.
• Edit the netmon.lrf file and set the queue size for ICMP pings:
  
  netmon -q 32
• When using multiple x-emulation operator sessions, put the fully qualified Tivoli NetView server node name in the Tivoli NetView server /etc/hosts file.

## Large Network Hardware Recommendations

This section provides information about large networks.

### Installation Description

Use the information in this section to determine if your network is categorized as a large network. If you decide that your network belongs in this category, use the information in "Hardware Recommendation" to determine your system hardware requirements and the information in "Tuning Tips" on page 63 for tuning recommendations.

**Table 12. Large Installation Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of managed interfaces</td>
<td>25 000 - 49 999</td>
</tr>
<tr>
<td>Number of X operators(^1)</td>
<td>2-10</td>
</tr>
<tr>
<td>Number of Web consoles</td>
<td>1-30</td>
</tr>
</tbody>
</table>
| Average system workload        | • The default status monitoring interval of five minutes is used for most of the monitored resources.\(^2\)  
                                | • SNMP data is being collected at 10-15 minute intervals.  
                                | • The Tivoli NetView product is communicating with another product, for example, the Tivoli Enterprise Console product.  
                                | • An average of one or two traps per minute is being received, and bursts or 8-10 per second might be received. |

**Notes:**

1. See "Memory Recommendations" on page 65 for a description of X operators.
2. You must consider many factors when you establish the status monitor rates that you use. The following are examples of the things you should consider:
   • Network response time
   • Number of interfaces that might be down at the same time
   • Whether a wide area network (WAN) connection is being used

### Hardware Recommendation

Use the information in this section if your network is categorized as a large network. Memory and disk space requirements can vary depending on many factors. See "Additional Memory and Disk Space Recommendations" on page 65 for more information about determining system memory and disk space requirements.
Table 13. Hardware Recommendations

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of processors</td>
<td>4</td>
</tr>
<tr>
<td>Total system memory</td>
<td>2-4 GB</td>
</tr>
<tr>
<td>Memory the Tivoli NetView product will use</td>
<td>670 MB-1.2 GB</td>
</tr>
</tbody>
</table>

**Tuning Tips**

Use the information in this section to tune your large system to obtain optimum performance:

- Establish a program to regularly gather and review tuning-related information, and use this information on a regular basis to tune your system.
- Configure the size of the ovwdb cache to be slightly larger than the number of objects in the database.
- Edit the netmon.lrf file and set the queue size for ICMP pings:
  
  ```
  netmon -q 32
  ```
- Set the status monitor intervals in the range of 5-10 minutes. Consider the following factors when you set this value:
  - Processor speed
  - Network response times
  - The netmon ping queue size
  - Presence of mid-level managers

**Very Large Network Hardware Recommendations**

This section provides information about very large networks.

**Installation Description**

Use the information in this section to determine if your network is categorized as a very large network. If you decide that your installation belongs in this category, use the information in “Hardware Recommendation” on page 64 to determine your system hardware requirements and the information in “Tuning Tips” on page 64 for tuning recommendations.

Table 14. Very Large Installation Description

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of managed interfaces</td>
<td>More than 50 000</td>
</tr>
<tr>
<td>Number of X operators(^1)</td>
<td>2-10</td>
</tr>
<tr>
<td>Number of Web consoles</td>
<td>1-50 or more</td>
</tr>
</tbody>
</table>
Table 14. Very Large Installation Description (continued)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
</table>
| Average system workload         | • The default status monitoring interval of five minutes is not being used for all resources.  
|                                 | • SNMP data is being collected at 15-30 minute intervals.             
|                                 | • The Tivoli NetView product is communicating with another product, for example, the Tivoli Enterprise Console product.  
|                                 | • An average of 1-5 traps per minute is being received, and bursts or 8-10 per second might be received.  
|                                 | • Mid-level managers might be installed.                                
|                                 | • Different networks with varying response times are being monitored.  |

Note: ¹ See “Memory Recommendations” on page 65 for a description of X operators.

Hardware Recommendation

Use the information in this section if your networks are very large. Memory and disk space requirements can vary depending on many factors. See “Additional Memory and Disk Space Recommendations” on page 65 for more information about determining system memory and disk space requirements.

Table 15. Hardware Recommendations

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of processors</td>
<td>4</td>
</tr>
<tr>
<td>Total system memory</td>
<td>2-4 GB</td>
</tr>
<tr>
<td>Memory the Tivoli NetView product will use</td>
<td>670 MB-1.2 GB</td>
</tr>
</tbody>
</table>

Tuning Tips

Use the information in this section to tune your very large system to obtain optimum performance:

• Carefully monitor the use of X operators to avoid memory shortages.
• Establish a program to regularly gather and review tuning-related information about the following:
  – NetView logs
  – System performance
  – Network infrastructure

Use this information on a regular basis to tune your system.

• Configure the size of the ovwdb cache to be slightly larger than the number of objects in the database.
• Edit the netmon.lrf file and set the queue size for ICMP pings:
  netmon -q 32
• Set the status monitor intervals in the range of 10-15 minutes. Consider the following factors when you set this value:
  – Processor speed
  – Network response times
  – netmon ping queue size
Presence of mid-level managers

- Determine whether the following Xmx variable value in the
usr/OV/www/bin/jetty.sh file should be changed from 64 MB to 128 MB:
  
  ```
  JAVA_OPTIONS="Xmx64m..
  ```

  64 MB is sufficient for less than 50 Web consoles. Use 128 MB for more than 50
Web consoles.

- Ensure that the size of the paging space that is defined is twice the memory size.

---

### Additional Memory and Disk Space Recommendations

This section provides information about Tivoli NetView system memory and disk
space. Although this information pertains specifically to AIX operating systems, the
information can be applied to all UNIX systems.

#### General Information

The recommendations in this section assume that the Tivoli NetView product is the
single, major application present on the system. These recommendations do not
take into account products like the Tivoli Management Framework, DB2, or the
IBM Tivoli Switch Analyzer.

The memory recommendations are for servers that are running on UNIX systems
that support the Tivoli NetView product with a local user interface active. The
memory requirements of telnet sessions supported by the Tivoli NetView server for
use as end user interface sessions, and memory considerations for the use of Web
consoles are also provided.

Tivoli NetView Web consoles should have a minimum of 256 MB of memory.
However, for Windows 2000 or Windows XP operating systems, 512 MB is
suggested. See “Web Console System Requirements” on page 26 for more
information.

The initial setting of 64 MB in the jetty configuration file for Tivoli NetView Web
servers supports from 1-50 active Web consoles. For 50 or more Web consoles,
increase this value to 128 MB.

#### Memory Recommendations

The memory recommendations in this section should be used as a minimum
starting point for the size of the network that you plan to support. The information
in this section was based on a system that was configured as follows:

- A limited number of Tivoli NetView functions are active.
- A local end user interface is active.
- The Web server is running.

The information in this section is for a controlled test environment. Use this
information as a starting point and adjust the requirements to meet the needs of
your production environment. This information will help you to avoid selecting a
server with insufficient memory. Use the information in Table 16 on page 66 as
general recommendations for the projected size of the network you want to
manage.

Additional memory must be added for each additional X operator you want to
support. X operators are using an X emulation session to connect via a telnet

---

Appendix A. Hardware, Memory, and Tuning Recommendations  65
connection either directly to the Tivoli NetView server or to a Tivoli client system. Install the additional memory on the system to which the X operator is connected.

Use the following process to determine the amount of additional memory that is recommended for each additional X operator:

1. Determine the number of X operators that you want to support.
2. Determine the number of managed interfaces in the network.
3. Use Table 16 to determine the recommended amount of memory for your system.
4. Multiply the amount of recommended memory by 0.19. The result is the amount of additional memory that is required for each additional X operator.
5. Multiply the result by the number of additional X operators.

For example, if you are managing 18 000 interfaces and you have three X operators, you would use the following calculation:

\[ 670 \times (0.19(670)) \times 3 \]

The result is 1051.9, which means that you should expect the Tivoli NetView product to use at least 1051.9 MB memory for three X operators, one local operator, and Tivoli NetView supporting 18 000 interfaces.

Table 16. Recommended Memory

<table>
<thead>
<tr>
<th>Number of Interfaces</th>
<th>Number of Objects</th>
<th>Tivoli NetView Memory Requirements in MBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200</td>
<td>4651</td>
<td>216</td>
</tr>
<tr>
<td>4500</td>
<td>9273</td>
<td>220</td>
</tr>
<tr>
<td>9000</td>
<td>18510</td>
<td>370</td>
</tr>
<tr>
<td>13000</td>
<td>27756</td>
<td>560</td>
</tr>
<tr>
<td>18000</td>
<td>37004</td>
<td>670</td>
</tr>
<tr>
<td>52000</td>
<td>107995</td>
<td>1060</td>
</tr>
<tr>
<td>68000</td>
<td>138320</td>
<td>1200</td>
</tr>
<tr>
<td>110000</td>
<td>226022</td>
<td>2825</td>
</tr>
</tbody>
</table>

**Disk Space Recommendations for the Tivoli NetView Database**

The disk space recommendations in this section should be used to avoid disk space problems with the Tivoli NetView database. Tivoli NetView is installed by default in the /usr directory and it is important to allocate enough disk space for your anticipated network size. Note that these estimates were obtained using the default Tivoli NetView database.

Table 17. Recommended Disk Space

<table>
<thead>
<tr>
<th>Number of Interfaces</th>
<th>Recommended Disk Space in MBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>17</td>
</tr>
<tr>
<td>4000</td>
<td>31</td>
</tr>
<tr>
<td>9000</td>
<td>61</td>
</tr>
<tr>
<td>13500</td>
<td>85</td>
</tr>
<tr>
<td>22000</td>
<td>133</td>
</tr>
<tr>
<td>29000</td>
<td>196</td>
</tr>
<tr>
<td>35000</td>
<td>239</td>
</tr>
</tbody>
</table>
Table 17. Recommended Disk Space (continued)

<table>
<thead>
<tr>
<th>Number of Interfaces</th>
<th>Recommended Disk Space in MBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>47000</td>
<td>273</td>
</tr>
<tr>
<td>54000</td>
<td>325</td>
</tr>
<tr>
<td>62000</td>
<td>426</td>
</tr>
<tr>
<td>110000</td>
<td>719</td>
</tr>
</tbody>
</table>
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