# Tivoli

# Tivoli Integration Pack for NetView User's Guide

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# Tivoli Integration Pack for NetView User's Guide (August 1998)

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# Preface

The Tivoli Integration Pack for NetView (TIPN) integrates NetView and Tivoli applications to provide combined systems and network management.

NetView provides tools to monitor a heterogeneous network. Included among these tools are a topology view, **rping**, **rnetstat**, and **traceroute**, to help you understand and troubleshoot your network.

The Tivoli Management Environment (TME), provides a suite of tools that provides a way to manage network computing resources of many different types from a single point.

TIPN provides added integration and functionality to NetView and TME 10 applications without introducing major changes to the existing applications.

## Who Should Read This Guide

The *Tivoli Integration Pack for NetView User's Guide* is intended for network operators and administrators already familiar with NetView, the TME 10 Framework, TME 10 Inventory, and the TME 10 Enterprise Console (TEC).

## Prerequisite and Related Documents

The following is a list of documentation related to TIPN:

- *NetView Administrator's Guide, Version 5.1*
  Provides information about operating and using NetView, Version 5.1. It explains what the application does and how to use it to manage and monitor a multiprotocol network.

- *NetView Installation Guide, Version 5.1*
  Provides information about the steps necessary for installing and configuring NetView Version 5.1 in a Tivoli environment.

- *TME 10 Framework Planning and Installation Guide, Version 3.2*
  or *Version 3.6*
  Provides information about setting up the Framework for network administration.

- *TME 10 Framework Reference Manual, Version 3.2* or *Version 3.6*
  Provides information about Framework commands.

- *TME 10 Framework User's Guide, Version 3.2* or *Version 3.6*
  Provides information about Framework installation and managed resources.

- *TME 10 Inventory User's Guide, Version 3.2* or *Version 3.6*
  Provides information about setting up TME 10 Inventory as well as preparing the relational database for a variety of database architectures.

- *TME 10 Enterprise Console Reference Manual, Version 3.1* or *Version 3.6*
  Provides detailed descriptions for the command line interface (CLI) commands available on TEC. These commands can be used to verify your TEC installation prior to installing and using the TEC Integration for NetView.

- *TME 10 Enterprise Console User's Guide, Version 3.1* or *Version 3.6*
  Provides information about setting up TEC, both console and server, as well as information about event groups and other important TEC concepts.

## What This Guide Contains

The *Tivoli Integration Pack for NetView User's Guide* contains information about the TIPN components. Using this guide, you will be able to install the TIPN components, understand the purpose of each component, and step through possible scenarios for using each component.

The *Tivoli Integration Pack for NetView User's Guide* contains the following chapters:

- Chapter 1, "Installing TIPN Components"
  Explains the basic steps for installing the TIPN components.

- Chapter 2, "Installing Patches for TIPN Installation"
  Explains how to install the prerequisite TME 10 Framework 3.2 Super Patch and the TME 10 Framework TIPN Patch.

- Chapter 3, "Using Tivoli Network Diagnostics"
  Explains how to install and use the Tivoli Network Diagnostics component.

- Chapter 4, "Using Tivoli Inventory Integration"
  Explains how to install and use the NetView/Inventory Integration component.

- Chapter 5, "Using Tivoli TEC Integration for NetView"
  Explains how to install and use the TEC Integration component.

- Chapter 6, "Troubleshooting"
  Explains how to maintain and troubleshoot the installation and use of TIPN components.

- Appendix A, "TIPN User Interface Additions"
  Contains a description of the **Tivoli** menu TIPN adds to the NetView console.

- Appendix B, "TME 10 Inventory Schema Additions"
  Contains the new TME 10 Inventory schema tables and views for NetView.

## Conventions Used in This Guide

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**. Names of windows, dialogs, and other controls also appear in **bold**.

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

***Bold Italics***
New terms appear in ***bold italics*** when they are defined in the text.

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

## Platform-specific Information

The following table identifies the supported platform versions known at the time of publication.

| Interp | Platform | Supported Versions |
|--------|----------|--------------------|
| aix4-r1 | AIX 4.*x* | IBM® RS/6000® series running AIX, Versions 4.1, 4.2, and 4.3 |
| hpux10 | HP-UX | HP9000/700 and 800 series running HP-UX, Versions 10.01, 10.10, 10.20 and 11.00 |
| solaris2 | Solaris | Sun SPARC series running Solaris, Versions 2.5, 2.5.1, and 2.6 |
| w32-ix86 | Windows® | IBM-compatible PCs 486 or higher running Microsoft Windows 95 |
| | Windows NT® | IBM-compatible PCs 486 or higher running Microsoft Windows NT, Version 4.0 |

## Contacting Customer Support

If you encounter difficulties with any Tivoli products, you can enter **http://www.support.tivoli.com** to view the Tivoli Support home page. After you link to and submit the customer registration form, you will be able to access many customer support services on the Web.

Use the following phone numbers to contact customer support in the United States: the Tivoli number is 1-800-848-6548 (1-800-TIVOLI8) and the IBM number is 1-800-237-5511 (press or say 8 after you reach this number). Both of these numbers direct your call to the Tivoli Customer Support Call Center.

We are very interested in hearing from you about your experience with Tivoli products and documentation. We welcome your suggestions for improvements. If you have comments or suggestions about this documentation, please send e-mail to pubs@tivoli.com.

# 1

# Installing TIPN Components

This chapter provides an introduction to installing each of the Tivoli Integration Pack for NetView (TIPN) components and related patches. Each of the following chapters has detailed installation and use instructions specific to individual components.

## TIPN Component List

The following tables list the components and patches related to the TIPN installation.

TIPN contains seven installable components, listed in the following table.

| Component | Functions | Description |
|-----------|-----------|-------------|
| Tivoli Framework Network Diagnostics<br><br>**Implementation site:**<br>All TME 10 managed nodes | ■ **wrping**<br>■ **wrtraceroute**<br>■ **wrnetstat**<br>■ **wwakeup** | Adds command line interface (CLI) commands for diagnosing and remote troubleshooting of network problems. This component also adds a Wake on LAN utility to the Framework. |
| Tivoli Framework Network Diagnostics for NetView Server<br><br>**Implementation site:**<br>NetView servers | **Tivoli** menu additons to the NetView console:<br><br>■ Tivoli Discovery<br>■ Tivoli Reports<br>■ remote **ping**, **traceroute**, and **netstat** functions from the NetView console | Adds the following functions to the NetView console:<br><br>■ Launch the Tivoli Desktop from NetView<br>■ Discover and highlight managed resources in your network<br>■ Generate and view various web-based reports<br>■ Access the remote **ping**, **traceroute**, and **netstat** functions from the **Tivoli** menu |
| Tivoli Framework Network Diagnostics for NetView Client<br><br>**Implementation site:**<br>NetView clients | Same as above, for NetView clients. | If you are going to install Tivoli Framework Network Diagnostics for NetView Client, you must first install Tivoli Framework Network Diagnostics for NetView Server on the client's corresponding server. |
| Tivoli NetView/ Inventory Integration Adapter for NetView Server<br><br>**Implementation site:**<br>NetView servers | Allows you to target NetView server nodes for NetView/Inventory exports. | This component gives network administrators access to system information that is discovered by TME 10 Inventory. It also allows for the network information discovered by TME 10 NetView to be exported to the TME 10 Inventory data repository. |

| Component | Functions | Description |
|---|---|---|
| Tivoli NetView/ Inventory Integration Profile<br><br>**Implementation site:** TME 10 managed nodes | Allows you to create and distribute NetView/Inventory profiles. | This component allows for the network information discovered by TME 10 NetView to be exported to the TME 10 Inventory data repository. |
| Tivoli NetView/TEC Integration Adapter for NetView Server<br><br>**Implementation site:** NetView servers with TEC console | The **TEC Events** menu option is added to the **Monitor** menu of the NetView console. The **Tasks** menu option is added to the TEC console. | Interconnects NetView and the TME 10 Enterprise Console (TEC). With TEC Integration, you can use the NetView SmartSet (Collection on a UNIX-based machine) concepts and network information as well as TEC event history to perform TEC tasks from NetView. |
| Tivoli NetView/TEC Integration Adapter for NetView Client<br><br>**Implementation site:** NetView client with TEC console | Same as above, for NetView clients. | Same as above, for NetView clients. |

If you are going to install and use TIPN components on NetView 5.1 servers or clients running Windows NT, you must first install the Enabler components for Windows NT.

| Component | Function | Description |
|---|---|---|
| Tivoli NetView Server 5.1 Enabler for Windows NT<br><br>**Implementation site:** NetView servers running on Windows NT | Allows you to install and use TIPN on NetView 5.1 servers running on Windows NT. | Install the Enabler component on those NetView servers running Windows NT from which you want to access the following components from the NetView console:<br><br>■ Tivoli Framework Network Diagnostics for NetView Server<br><br>■ Tivoli NetView/ Inventory Integration Adapter for NetView Server<br><br>■ Tivoli NetView/TEC Integration for NetView Server |
| Tivoli NetView Client 5.1 Enabler for Windows NT<br><br>**Implementation site:** NetView clients running on Windows NT | Allows you to install and use TIPN on NetView 5.1 clients running on Windows NT. | It is only necessary to install the Enabler component on those NetView clients running Windows NT from which you want to access the following components from the NetView console:<br><br>■ Tivoli Framework Network Diagnostics for NetView Client<br><br>■ Tivoli NetView/TEC Integration for NetView Client |

In addition to installing the TIPN components, you will also need to install a number of patches. The following table lists the patches related to TIPN components, as well as where you can find these patches.

| Patch | Related Component(s) | Location of Patch |
|---|---|---|
| TME 10 Framework 3.2 Super Patch | All components installed on nodes managed with TME 10 Framework, Version 3.2. | NetView, Version 5.1, installation CD-ROM. (Chapter 2, "Installing Patches for TIPN Installation") |
| TME 10 Framework TIPN Patch | All TIPN components. | **PATCHES/TIPN3201** directory of the TIPN Installation CD-ROM. (Chapter 2, "Installing Patches for TIPN Installation") |
| TEC31-0012 **Implementation site:** NetView servers and clients with TEC consoles | ■ Tivoli NetView/TEC Integration for NetView Server<br><br>■ Tivoli NetView/TEC Integration for NetView Client | **PATCHES/TEC31012** directory of the TIPN Installation CD-ROM. (Chapter 5, "Using Tivoli TEC Integration for NetView") |
| 3.1-TEC-0030 **Implementation site:** NetView servers and clients with TEC consoles | ■ Tivoli NetView/TEC Integration for NetView Server<br><br>■ Tivoli NetView/TEC Integration for NetView Client | **PATCHES/TEC31030** directory of the TIPN Installation CD-ROM. (Chapter 5, "Using Tivoli TEC Integration for NetView") |

Users of the Tivoli Integration Pack for NetView should already be familiar with the TME 10 Framework, NetView 5.1, TME 10 Inventory, and the TME 10 Enterprise Console (TEC).

# Installation Requirements

Before installing TIPN components, make sure your system meets the general hardware and software requirements described in this section. Each chapter lists specific hardware, software, and implementation site requirements for individual components.

## Hardware Requirements

See specific NetView and Tivoli product documentation for hardware requirements. TIPN adds no additional requirements.

## Software Requirements

All TIPN components require the following components:

■ TME 10 Framework, Version 3.2 or Version 3.6.

■ TME 10 Framework 3.2 Super Patch (only if you are installing TIPN components on TME 10 Framework, Version 3.2). See Chapter 2, "Installing Patches for TIPN Installation" for information on installing the TME 10 Framework 3.2 Super Patch.

■ TME 10 Framework TIPN Patch (see Chapter 2, "Installing Patches for TIPN Installation" for information on installing the TME 10 Framework TIPN Patch).

■ Products listed as being "for NetView" require NetView, Version 5.1.

If you are going to install and use TIPN on NetView running on Windows NT, you must first install the Tivoli NetView Enabler for Windows NT. This product is located in the **NVNT** directory of the TIPN Installation CD-ROM. The Tivoli NetView Enabler for Windows NT has two subcomponents, with the following implementation sites:

■ Tivoli NetView Server 5.1 Enabler for Windows NT must be installed on NetView servers running Windows NT

■ Tivoli NetView Client 5.1 Enabler for Windows NT must be installed on NetView clients running Windows NT

It is only necessary to install the Enabler component on those NetView servers or NetView clients running Windows NT on which you want to install the following components:

■    Tivoli Framework Network Diagnostics for NetView Server

■    Tivoli Framework Network Diagnostics for NetView Client

■    Tivoli NetView/TEC Integration for NetView Server

■    Tivoli NetView/TEC Integration for NetView Client

**Note:**    Installing the Tivoli NetView Server 5.1 Enabler for Windows NT or Tivoli NetView Client 5.1 Enabler for Windows NT, or both, does not create a NetView icon on the Tivoli desktop.

For specific additional software requirements, see chapters related to individual TIPN components.

**Note:**    Any TIPN component that must be installed on a NetView machine will not run on HP-UX.

## Implementation Site

Components must be installed in specific locations, or implementation sites (for example, NetView server, Tivoli managed node, and so on). See the chapters related to individual components to find specific implementation site requirements.

# Installing TIPN Components

Each of the TIPN components provides a specific function. It is only necessary to install those components that provide the specific function you want.

Follow these steps to install TIPN components from the Tivoli desktop:

1.    From the Tivoli desktop's **Desktop** menu, select **Install**, then **Install Product...** to display the **Install Product** dialog.

2.    You may see an error about the media not being properly set. Click the **OK** button to display the **File Browser** dialog.

■    Under **Hosts**, highlight the name that has the installation media (disk file or CD-ROM).

■ Under **Path Name**, type in the full path name of the directory that contains the TIPN components or where the CD-ROM is mounted. TIPN components are located in the **TIPN** directory of the TIPN Installation CD-ROM.

■ Click the **Set Media & Close** button.

3. The **Install Product** dialog should then be displayed. If the TIPN components do not appear in the list of installable products, click the **Select Media...** button to display the **File Browser** dialog (see previous step), and set the correct path to the installation media.
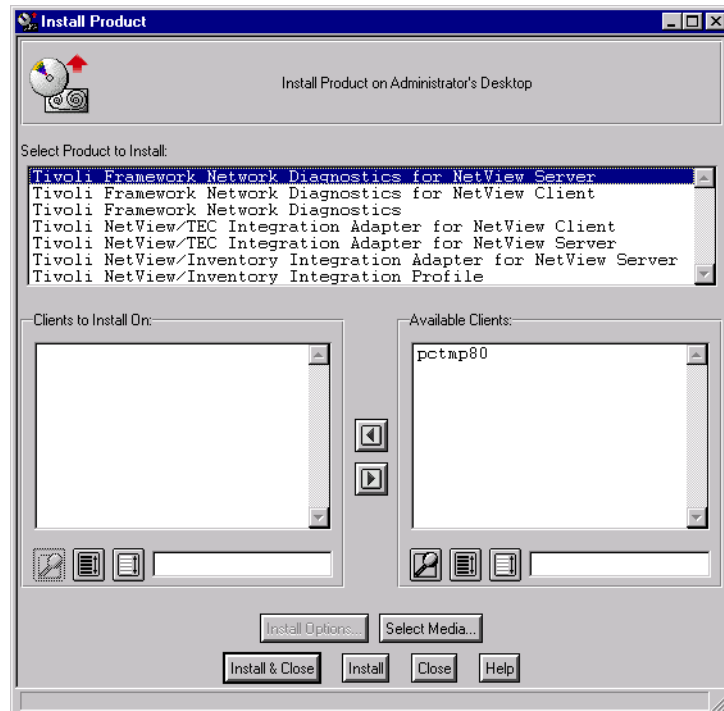


4. Select the TIPN component you want to install. Note that many of the components can be installed separately. Please see specific chapters for more information.

5.  From the **Available Clients** scrolling list, select clients you wish to install on and move them to the **Clients to Install On** scrolling list using the left arrow button. See individual component chapters for more detailed instructions.

6.  Click the **Install & Close** button.

**Note:**  You should close the NetView user interface while installing TIPN components. User interface additions will not appear until after you have restarted the NetView console.

# 2

# Installing Patches for TIPN Installation

This chapter describes how to install the TME 10 Framework 3.2 Super Patch and the TME 10 Framework TIPN Patch. You must install the TIPN patch before you can install or use the Tivoli Integration Package for NetView (TIPN). Installing the TME 10 Framework TIPN Patch installs all TIPN component classes necessary for installing the TIPN components.

If you are installing TIPN components on the TME 10 Framework, Version 3.2, you must install the TME 10 Framework 3.2 Super Patch before installing the TME 10 Framework TIPN Patch.

## TME 10 Framework 3.2 Super Patch Installation Requirements

Before installing the TME 10 Framework 3.2 Super Patch, make sure your system meets the requirements described in this section. For the most recent information, see the TME 10 Framework 3.2 Super Patch release notes.

### Hardware Requirements

Please see specific NetView and Tivoli product documentation for hardware requirements. The TME 10 Framework 3.2 Super Patch adds no additional requirements.

## Software Requirements

The TME 10 Framework 3.2 Super Patch requires the TME 10 Framework, Version 3.2. If you are installing TIPN components on the TME 10 Framework, Version 3.6, there is no need to install the TME 10 Framework 3.2 Super Patch.

## Implementation Site

Components must be installed in specific locations, or implementation sites.

The TME 10 Framework 3.2 Super Patch must be installed on all Framework 3.2 managed nodes, including your Tivoli Management Region (TMR) server(s).

## Supported Platforms

The TME 10 Framework 3.2 Super Patch operates on the following platforms:

- AIX 4.*x*

- HP-UX

- Solaris

- Windows NT

# Installing the TME 10 Framework 3.2 Super Patch

See the accompanying release notes for more information about the TME 10 Framework 3.2 Super Patch.

Follow the steps in Chapter 1, "Installing TIPN Components" to install the TME 10 Framework 3.2 Super Patch.

1. From the Tivoli desktop's **Desktop** menu, select **Install**, then **Install Patch...**, rather than **Install Product...**

2. Select **TME 10 Framework 3.2 Patch** from the NetView, Version 5.1, installation CD-ROM

3. Install the TME 10 Framework 3.2 Super Patch on all Tivoli managed nodes

You must install the TME 10 Framework 3.2 Super Patch before installing the TME 10 Framework TIPN Patch. If you try to install the TME 10 Framework TIPN Patch without the prerequisite TME 10 Framework 3.2 Super Patch, you will receive the following error message:

```
The following products or patches need to be
installed before you can continue with this
portion of the installation:
"TME 10 Framework 3.2 Super Patch".
```

After installing the TME 10 Framework 3.2 Super Patch, run the **oserv** command in order to have the system ready for use. Use the following command from your TMR server:

**odadmin reexec all**

# TME 10 Framework TIPN Patch Installation Requirements

Before installing the TME 10 Framework TIPN Patch, make sure your system meets the requirements below.

## Hardware Requirements

Please see specific NetView and Tivoli product documentation for hardware requirements. The TME 10 Framework TIPN Patch adds no additional requirements.

## Software Requirements

The TME 10 Framework TIPN Patch requires the following components:

■　TME 10 Framework, Version 3.2 or Version 3.6

■　TME 10 Framework 3.2 Super Patch (only if you are installing TIPN components on the TME 10 Framework, Version 3.2)

## Implementation Site

Components must be installed in specific locations, or implementation sites.

The TME 10 Framework TIPN Patch must be installed on all Tivoli managed nodes, including TMR server(s).

## Supported Platforms

The TME 10 Framework TIPN Patch operates on the following platforms:

- AIX 4.*x*
- HP-UX
- Solaris
- Windows NT

# Installing the TME 10 Framework TIPN Patch

When you install the TME 10 Framework TIPN Patch, you install the classes for all TIPN components and register the TIPN classes with the name registry of the TMR server.

Follow the steps in Chapter 1, "Installing TIPN Components" to install the TME 10 Framework TIPN Patch.

1.  From the Tivoli desktop's **Desktop** menu, select **Install**, then **Install Patch...**, rather than **Install Product...**

2.  Select **TME 10 Framework TIPN Patch** from the **PATCHES/TIPN3201** directory of the TIPN installation CD-ROM

3.  Install the TME 10 Framework TIPN Patch on all Tivoli managed nodes

You must install the TME 10 Framework TIPN Patch before installing any other TIPN components. If you try to install TIPN components without the prerequisite patch, you will receive the following error message:

```
The following products or patches need to be
installed before you can continue with this
portion of the installation:
"3.2-TIPN-0001".
```

# 3

# Using Tivoli Network Diagnostics

The Tivoli Network Diagnostics components of TIPN discover Tivoli managed resources in your network, highlight them in your NetView submaps, and populate the NetView database with information about the resources.

Tivoli Network Diagnostics includes the following components:

■   Tivoli Framework Network Diagnostics

■   Tivoli Framework Network Diagnostics for NetView Server

■   Tivoli Framework Network Diagnostics for NetView Client

Installing the Tivoli Framework Network Diagnostics component gives you access to the **wrping**, **wrtraceroute**, and **wrnetstat** commands, as well as the Tivoli Wake on LAN function (**wwakeup**), from the TME 10 command line interface (CLI).

Installing the Tivoli Framework Network Diagnostics for NetView Server and Tivoli Framework Network Diagnostics for NetView Client components makes the **remote ping**, **remote traceroute**, and **remote netstat** commands available from the **Tivoli** menu of the NetView console, and also adds the Tivoli Discovery and Tivoli Reports functions (See Appendix A, "TIPN User Interface Additions" for more on the TIPN user interface additions).

**Note:**   Throughout this user's guide, "Tivoli Framework Network Diagnostics for NetView" refers to both the server and client components.

This section describes the requirements for installing these diagnostics components. It also shows you how to configure and use the components, and gives possible usage scenarios.

# Installation Requirements

Before installing Tivoli Network Diagnostics, make sure your system meets the requirements below.

## Hardware Requirements

Please see specific NetView and Tivoli product documentation for hardware requirements. The Tivoli Network Diagnostics component adds no additional requirements.

## Software Requirements

Tivoli Network Diagnostics requires the following components:

■    TME 10 Framework, Version 3.2 or Version 3.6.

■    TME 10 Framework 3.2 Super Patch (only if you are installing TIPN components on TME 10 Framework, Version 3.2). See Chapter 2, "Installing Patches for TIPN Installation" for information on installing the TME 10 Framework 3.2 Super Patch.

■    TME 10 Framework TIPN Patch (see Chapter 1, "Installing TIPN Components" for installation instructions).

Tivoli Framework Network Diagnostics for NetView Server requires NetView Version 5.1 Server. Tivoli Framework Network Diagnostics for NetView Client requires NetView Version 5.1 Client.

## Implementation Site

Components must be installed in specific locations, or implementation sites.

■    Tivoli Framework Network Diagnostics must be installed on all Tivoli managed nodes

■    Tivoli Framework Network Diagnostics for NetView Server can only be installed on NetView servers

■　　Tivoli Framework Network Diagnostics for NetView Client can only be installed on NetView Clients

**Note:**　If you are installing Diagnostics for NetView Client, you must install the Diagnostics for NetView Server component on NetView servers before you install the Diagnostics for NetView Client component on NetView clients. If the NetView client is not configured correctly to share the NetView server database, the Tivoli Discovery and Reports highlight function will not work correctly.

## Supported Platforms

The Tivoli Framework Network Diagnostics component operates on the following platforms:

■　　AIX 4.*x*

■　　Solaris

■　　HP-UX

■　　Windows NT

■　　Windows 95 (TMA endpoint support only)

The Tivoli Wake on LAN Client is available only on managed nodes.

The Tivoli Framework Network Diagnostics for NetView Server and Tivoli Framework Network Diagnostics for NetView Client components operate on the following platforms:

■　　AIX 4.*x*

■　　Solaris

■　　Windows NT

# Installing Tivoli Network Diagnostics

Installing the Tivoli Framework Network Diagnostics components gives you access to the Tivoli managed resources in your network, and makes that information available from within the NetView console.

Using Tivoli Network Diagnostics

Installing the Tivoli Framework Network Diagnostics component gives you access to the **wrping**, **wrtraceroute**, and **wrnetstat** commands, as well as the Tivoli Wake on LAN function (**wwakeup**), from the TME 10 command line interface (CLI).

Installing the Tivoli Framework Network Diagnostics for NetView components makes the **remote ping**, **remote traceroute**, and **remote netstat** commands available from the Tivoli menu of the NetView console, and also adds the Tivoli Discovery and Tivoli Reports functions.

## Installing Tivoli Framework Network Diagnostics

When you install the Tivoli Framework Network Diagnostics component, you get the **wrping**, **wrtraceroute**, and **wrnetstat** commands, as well as the Tivoli Wake on LAN function (**wwakeup**), from the TME 10 command line interface (CLI).

Follow the steps in Chapter 1, "Installing TIPN Components" to install Tivoli Framework Network Diagnostics.

1.  Select **Tivoli Framework Network Diagnostics**

2.  Install Tivoli Framework Network Diagnostics on all Tivoli managed nodes

If you are installing Tivoli Framework Network Diagnostics on a node running Windows NT, you must reboot the machine after installing the component.

## Installing Tivoli Diagnostics for NetView Server and Client

When you install the Tivoli Framework Network Diagnostics for NetView components, you get the Tivoli Discovery and Display functions, as well as the **remote ping**, **remote netstat**, and **remote traceroute** menu options.

Follow the steps in Chapter 1, "Installing TIPN Components" to install Diagnostics for NetView Server and Diagnostics for NetView Client.

1.  Select **Tivoli Framework Network Diagnostics for NetView Server** or **Tivoli Framework Network Diagnostics for NetView Client**

2. Install the Diagnostics for NetView Server on all NetView servers

3. Install the Diagnostics for NetView Client on all NetView clients

**Note:** If you are installing Diagnostics for NetView Client, you must install the Diagnostics for NetView Server component on NetView servers before you install the Diagnostics for NetView Client component on NetView clients. If the NetView client is not configured correctly to share the NetView server database, the Tivoli Discovery function will not work correctly.

# Using Tivoli Network Diagnostics

The diagnostic functions provided by Tivoli Network Diagnostics include **ping** (**wrping**), **traceroute** (**wrtraceroute**), and **netstat** (**wrnetstat**).

■ The **wrping** command is used to initiate an Internet Control Message Protocol (ICMP) echo from one host to another.

■ The **wrtraceroute** command is used to determine the route between two nodes.

■ The **wrnetstat** command is used to request network information from a remote node.

For more information on using these diagnostic functions from the NetView console, see "Accessing Diagnostics from the NetView Console," on page 3-9.

## Roles for Using Tivoli Network Diagnostics

To use the Tivoli Network Diagnostics commands, you must be a Tivoli administrator with the role of **admin**, **senior**, **super** or **user**. See the *TME 10 Framework User' Guide, Version 3.2* or *Version 3.6* for more information about roles.

## Accessing Diagnostics from the TME 10 Command Line

You can only access the diagnostic services from the TME 10 command line interface (CLI) if you have not installed the Tivoli Framework Network Diagnostics for NetView components. These commands can only be invoked from a Tivoli managed node that has the Tivoli Framework Network Diagnostics component installed.

Following is the CLI usage statement for each of the Tivoli Framework Network Diagnostics commands.

### Using the wrping command

The **wrping** command is used to initiate an Internet Control Message Protocol (ICMP) echo from one host to another. Use the following syntax for **wrping** (parameters in brackets are optional):

**wrping** *RemoteNode* [**–n** *Count*] [**–s** *PacketSize*] [**–w** *Timeout*] *TargetHost*

where:

| | |
|---|---|
| *RemoteNode* | Specifies the label of the remote node where the method is invoked. This node must be a managed node that has Tivoli Network Diagnostics installed, or it must be a TMA endpoint logged on to a TMA gateway that has Tivoli Network Diagnostics installed (for all TMA endpoints running on Framework 3.2 only, the Tivoli administrator must have root privilege). |
| **–n** *Count* | Specifies the number of echo requests to be sent. |
| **–s** *PacketSize* | Specifies the number of data bytes to be sent. The default is 56. On UNIX platforms this data is combined with the 8 bytes of the ICMP header for a total of 64 bytes of ICMP data. |
| **–w** *Timeout* | Specifies the timeout to wait for a reply in second. |
| *TargetHost* | Specifies the host name or IP address of the target host to be contacted. |

### Using the wrtraceroute command

The **wrtraceroute** command is used to determine the route between two nodes. Use the following syntax for **wrtraceroute** (parameters in

brackets are optional):

**wrtraceroute** *RemoteNode* [**–m** *MaxTTL*] [**–n**] [**–q** *NumQueries*] [**–t** *TypeOfService*] [**–w** *WaitTime*] [**–s** *PacketSize*] *TargetHost*

where:

| | |
|---|---|
| *RemoteNode* | Specifies the label of the remote node where the method is invoked. This node must be a managed node that has Tivoli Network Diagnostics installed, or it must be a TMA endpoint logged on to a TMA gateway that has Tivoli Network Diagnostics installed (for all TMA endpoints running on Framework 3.2 only, the Tivoli administrator must have root privilege). |
| **–m** *MaxTTL* | Specifies the maximum time-to-live (maximum number of hops) used in the outgoing probe packet. The default is 30 hops. |
| **–n** | Prints the hop addresses numerically rather than symbolically and numerically. This flag saves a name server address-to-name lookup for each gateway found along the path. |
| **–q** *NumQueries* | Specifies the number of probes the traceroute command sends at each Max TTL setting. The default is three probes. This option is ignored on Windows 95 and NT platforms. |
| **–t** *TypeOfService* | Sets the TypeOfService variable in the probe packets to a decimal integer in the range of 0 to 255. The default is 0. This flag can be used to investigate whether different service types result in different paths. Useful values are **–t 16** (low delay) and **–t 8** (high throughput). |
| **–w** *WaitTime* | Specifies the time (in seconds) to wait for a response to a probe. The default is 5 seconds. The minimum value is 2 seconds. |
| **–s** *PacketSize* | Specifies the length of the probe datagram in bytes. The default (and minimum size) is 40. |
| *TargetHost* | Specifies the host name or IP address of the target node to locate. |

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## Using the wrnetstat command

The **wrnetstat** command is used to request network information from a remote node. Use the following syntax for **wrnetstat** (parameters in brackets are optional):

**wrnetstat** [–**a**] [–**n**] [–**s**] [–**p** *Proto*] [–**r**] *RemoteNode*

where:

| | |
|---|---|
| –**a** | Displays all connections and listening ports (server-side connections are normally not shown). |
| –**n** | Displays addresses and port numbers in numerical form. |
| –**s** | Displays per-protocol statistics. By default, statistics are shown for TCP, UDP, and IP; the –**p** option may be used to specify a subset of the default. |
| –**p** *Proto* | Displays connections for the specified protocol; Proto may be TCP or UDP. If used with the –**s** option to display per-protocol statistics, Proto may be TCP, UDP, or IP. This option is not supported on Solaris and will be ignored if specified. |
| –**r** | Displays the contents of the routing table. |
| *RemoteNode* | Specifies the label of the remote node where the network information is requested. This node must be a managed node that has Tivoli Network Diagnostics installed, or it must be a TMA endpoint logged on to a TMA gateway that has Tivoli Network Diagnostics installed (for all TMA endpoints running on Framework 3.2 only, the Tivoli administrator must have root privilege). |

## Accessing Diagnostics from the NetView Console

To run the Tivoli Network Diagnostics services from the NetView console if you have installed the Diagnostics for NetView Server or Diagnostics for NetView Client, select the services from the **Tivoli** → **Tivoli Network Diagnostics** menu option. You will see the following services:

■ **oserv ping**

■ **remote ping**

■ **remote traceroute**

■ **remote netstat**

To use these tools from the NetView console, you will need to have one or more objects selected in your NetView submap(s), depending on the function you are using.

■ The **oserv ping** requires that one object is selected. The object must be a Tivoli managed resource.

■ The **remote ping** and **remote traceroute** require that two objects are selected. The first object must be a Tivoli managed node that has Tivoli Network Diagnostics installed, or it must be a TMA endpoint logged on to a gateway that has Tivoli Network Diagnostics installed. This is the location from which the command is executed. The second object will be the target of the command. Click on the first object to select it. Press the **Control** key and click on a second object to select it.

■ The **remote netstat** command requires one target object, which must be a Tivoli managed node that has Tivoli Network Diagnostics installed, or it must be a TMA endpoint logged on to a gateway that has Tivoli Network Diagnostics installed.

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# Configuring and Using Tivoli Discovery from NetView

Installing Tivoli Framework Network Diagnostics for NetView adds new functions to your NetView, Version 5.1, servers and clients, including Tivoli Discovery. A Tivoli environment can consist of many

different Tivoli resources, including TMR servers, Tivoli managed nodes, PC managed nodes, Tivoli TMAs, and so on.

It may not always be easy or convenient to keep track of where you have installed the various components of your Tivoli environment. By using the Tivoli Discovery component of the Tivoli Network Diagnostics, you can easily discover, display, and report on your Tivoli environment from NetView.

Tivoli Discovery automatically maps resources on the local TMR and all directly connected TMRs.

On managed nodes running Windows NT, the path to **%NV_DRIVE%\usr\ov\bin** must be set in the path environment before you attempt to run NetView (**%NV_DRIVE%** is the environment variable that indicates where NetView for Windows NT is installed).

## Configuring Tivoli Discovery

To run Tivoli Discovery, select **Perform Name Registry Discovery** from the **Tivoli → Tivoli Discovery** menu option on your NetView menu bar.

The menu option starts a discovery process that communicates with the Tivoli Name Registry (TNR). This process learns about your Tivoli environment by querying the TNR and then populates your NetView database with information about your Tivoli environment. Refer to the *TME 10 Framework Planning and Installation Guide,* to learn more about the TNR.

Using this method, Tivoli Discovery only learns about those TMRs connected to the TMR where NetView is located. Refer to the *TME 10 Framework Planning and Installation Guide, Version 3.2* or *Version 3.6* to learn more about connecting TMRs. To ensure that you discover your complete Tivoli environment, do the following:

1.  Make sure NetView is managing those areas of your Tivoli network.

2.  Make sure you have connected your NetView TMR to all other TMRs in your environment.

**Note:** Installing Tivoli Framework Network Diagnostics for NetView does not automatically run the **Perform Name Registry Discovery** function. To update the NetView database and the **Tivoli Reports**, you must run this command manually after you install the component. Until you do this step the **Tivoli Reports** will not provide content.

## Displaying Your Tivoli Environment

Once you have discovered your Tivoli environment, you can locate and display the various Tivoli resources within the context of your IP network. You can locate and highlight the following Tivoli resources by choosing the **Tivoli → Tivoli Locate** menu option from your NetView menu bar:

- **Tivoli Servers**

- **Tivoli Managed Nodes**

- **Tivoli PcManaged Nodes**

- **TMA Gateways**

- **TMA Endpoints**

When you locate and highlight one of these Tivoli resources, all symbols that either contain the Tivoli resource or that are the Tivoli resource are highlighted (the symbol label will be reverse video) in your NetView submaps.

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## Generating Reports

Once you run Tivoli Discovery, you can also view a series of reports from the **Tivoli** menu of the NetView console. These reports include the following, which can be accessed from the **Tivoli → Tivoli Reports** menu option:

- **Unmanaged Nodes by Segment**

- **Gateways by Segment**

- **Endpoints by Segment**

- **Endpoints by Gateway**

- **Endpoints by Interp**

- **Tivoli Servers by Segment**

- **ManagedNodes by Segment**

- **ManagedNodes by Tivoli Server**

- **PcManagedNodes by Proxy**

In order to view these reports, you must have an internet browser installed. From UNIX, the only supported browser is Netscape, and it must be installed and configured correctly. For users of Windows NT, reports are displayed in the default browser.
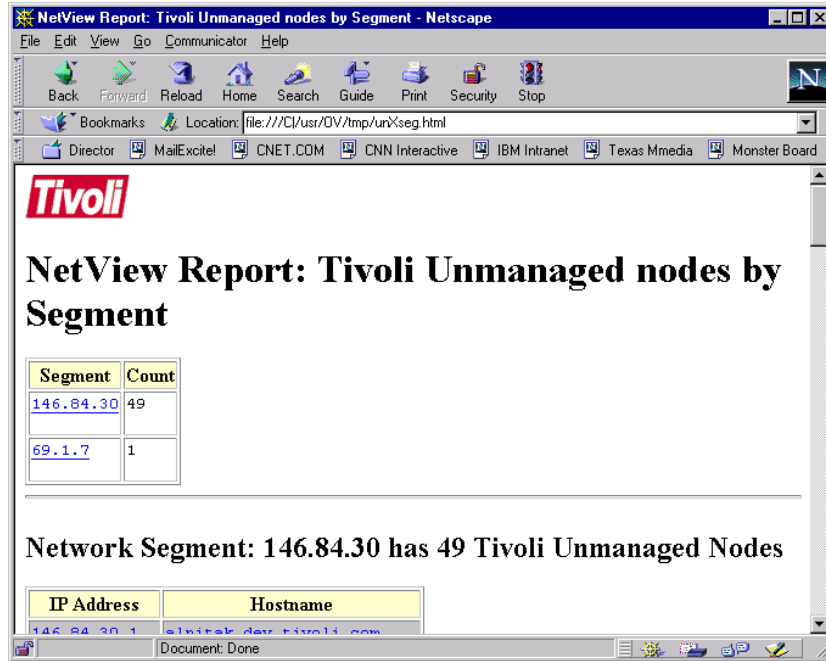
These reports are not generated or updated automatically. Tivoli Discovery must be run to propagate new or changed Tivoli managed nodes to the NetView database, then you must generate reports. On UNIX platforms, use **/usr/OV/bin/nvgenrpts.sh** to generate the reports. On Windows NT, use **%NV_DRIVE%\usr\ov\bin\nvgenrpts.cmd**.

If you want to schedule reports to be generated on a regular basis, use one of the following methods:

■    On Windows NT, use the **AT** service to run Tivoli Discovery, then run **nvgenrpts.cmd** once a day.

■    On UNIX-based systems, use the **cron** command to schedule **nvgenrpts.sh** to run once a day. See the **cron** man page for more information about the **cron** command.

For UNIX operating systems, **/usr/OV/bin/lstmr** is the discovery binary and **nvgenrpts.sh** is the report generation script. For Windows NT, **%NV_DRIVE%\usr\ov\bin\lstmr.exe** is the discovery binary and **nvgenrpts.cmd** is the report generation script.

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The following is an example **AT** command for Windows NT:

```
at \\schilders 2:00PM /every:M,T,W,Th,F,S,Su \
"cmd /c setup_env.cmd && c:\usr\OV\bin\ \
lıstmr.exe"
at \\schilders 4:00AM /every:M,T,W,Th,F,S,Su \
"cmd /c c:\usr\OV\bin\nvgenrpts.cmd"
```

It is possible to do the same type of automation using the UNIX **cron** service. See the local man page for information on setting up a **cron** file entry. Remember that **/usr/OV/bin/lstmr** must be executed in a sourced Tivoli environment.

The following are examples of AIX **cron** file entries:

```
00 16 * * * /usr/OV/bin/lstmr.sh
00 16 * * * /usr/OV/bin/nvgenrpts.sh
```

**Note:** **lstmr.sh** sources the appropriate Tivoli environment and then executes **/usr/OV/bin/lstmr**.

You can also run Discovery and generate these reports from the NetView console. Use the **Perform Name Registry Discovery** from the **Tivoli → Tivoli Network Diagnostics** menu option to run Discovery. Use the **Generate Reports** option from the **Tivoli → Tivoli Reports** menu option to generate reports. Use the options under the **Tivoli Reports** menu option to display reports.

# Configuring and Using Tivoli Wake on LAN

Tivoli Wake on LAN is designed to act either as a standalone Wake on LAN (WOL) component, or as a component that talks to a NetView server.

You must know the MAC address for the node you want to wake up to use Tivoli Wake on LAN as as a standalone WOL application.

You only need to know the IP address or the IP host name for the target wake-up node to use Tivoli Wake on LAN as an application that talks to a NetView server to resolve an IP address to a MAC address. After resolving the address, Tivoli WOL then sends a WOL packet. Communication with the NetView server is done via the Wake on LAN Server component.

Use the following syntax for Tivoli Wake on LAN Client (parameters in brackets are optional):

**wwakeup** **–m** *multicast address* | **–b** *broadcast address* **–a** *MAC address* | **–i** (*NetViewDatabase Name*) (*IP Address to resolve*) | **–n** (*NetViewDatabase Name*) (*Node Name to resolve*) [**–h**]

**–m** *multicast address*

> Specifies a multicast address to which to send the wake-up packet. Valid range is 224.0.0.0 to 239.255.255.255. If you use the **–m** option, you do not use the **–b** option.

**–b** *broadcast address*

> Specifies a broadcast address to which to send the wake-up packet. If you use the **–b** option, you do not use the **–m** option.

**–a** *MAC address*

> Specifies a MAC address to use to build the WOL packet. If you use the **–a** option, you do not use the **–i** or **–n** options.

**–i** (*NetViewDatabase Name*) (*IP address*)

> This option is intended to use a NetViewDatabase Tivoli object to resolve an IP address to a MAC address. Use this option when you do not directly know the MAC address of the node you want to wake up, but you do know the IP address. If you use the **–i** option, you do not use the **–a** or **–n** options.

**–n** (*NetViewDatabase Name*) (*Node Name*)

> Tells **wwakeup** to use the NetViewDatabase indicated to resolve the Node Name to a MAC address. Once **wwakeup** has the MAC address, it builds the packet and sends it. If you use the **–n** option, you do not use the **–a** or **–i** options.

**–h**                  Displays this help information.

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# Scenarios for Using Tivoli Network Diagnostics

Below are scenarios for using the services included with Tivoli Network Diagostics.

■ The **wrping** command is useful for determining the status of the network and various foreign hosts, and for testing, measuring, and managing networks.

■ The **wrtraceroute** command is useful for tracing the route an IP packet follows from one node to an internet host. Because **wrtraceroute** lists the response time for each network hop, you can use this command to locate bottlenecks between two nodes.

■ When a foreign host is not responding to a ping, **wrping** and **wrtraceroute** can be launched from another node in the network to determine whether the foreign host is reachable from a different network segment.

■ The **wrnetstat** command displays various network information about the target node, such as connections, routing table, and statistics.

■ **wrping**, **wrnetstat**, and **wrtraceroute** do not transmit clear (unencrypted) text passwords, so they can be used to diagnose network connectivity problems without revealing administrator passwords.

■ You can use a combination of Tivoli Discovery and Tivoli Reports to simplify the deployment of Tivoli managed nodes and gateways. Tivoli Discovery provides reports listing unmanaged nodes by network segment, which helps you find nodes that need either Tivoli managed nodes or Tivoli endpoints installed. Reports of PC-managed node locations by proxy server will aid in their conversion to TMA endpoints and TMA gateways.

■ You can display reports listing TMA endpoints by gateway and managed nodes by server to help you decide if your Tivoli servers and gateways may be overloaded.

# Scenarios for Using Tivoli Wake on LAN

Below are usage examples for the Tivoli Wake on LAN component.

The following example instructs **wwakeup** to send a WOL packet via broadcast to address 255.255.255.255. The packet contains the special instruction to wake up the node that has the MAC address 080020882BAB.

```
wwakeup -b 255.255.255.255 -a 080020882BAB
```

The following example instructs **wwakeup** to send a WOL packet via multicast to IP address 224.0.0.255. **wwakeup** uses the *NetViewDatabase* object **pkillion.tivoli.com** in the Tivoli environment to resolve the IP address 146.84.5.44 to a MAC address. The sent packet then contains the special instruction to wake up the node with the MAC address that is resolved.

```
wwakeup -m 224.0.0.255 -i pkillion.tivoli.com \
146.84.5.44
```

The following example instructs **wwakeup** to send a WOL packet via multicast to IP address 224.0.0.255. **wwakeup** uses the *NetViewDatabase* object **pkillion.tivoli.com** in the Tivoli environment to resolve the node name **batman.tivoli.com** to a MAC address. The sent packet will then contain the special instruction to wake up the node with the MAC address that is resolved.

```
wwakeup -m 224.0.0.255 -n pkillion.tivoli.com \
batman.tivoli.com
```

If you want to get a list of possible *NetViewDatabase Instance Names* in your environment, use the following command:

```
wlookup -ar NetViewDatabase
```

This command shows a NetViewDatabase instance object for each managed node on which you have installed Tivoli Framework Network Diagnostics for NetView.

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# 4

# Using Tivoli Inventory Integration

The Inventory Integration component of the Tivoli Integration Pack for NetView (TIPN) gives you access to system information that is discovered by TME 10 Inventory and to network information NetView gathers for all the nodes in your environment.

You can use Inventory Integration to catalog all the network devices in your enterprise. Importing NetView's discovery of TMR members into the Inventory databases helps you maintain and diagnose the Tivoli enviroment.

This chapter describes the requirements for installing Inventory Integration. It also shows you how to configure and use the component, and gives possible usage scenarios.

## Installation Requirements

Before installing Inventory Integration, make sure your system meets the requirements below.

### Hardware Requirements

Please see specific NetView and Tivoli NetView product documentation for hardware requirements. The Inventory Integration component adds no additional requirements.

### Software Requirements

Inventory Integration requires the following software:

- ■ TME 10 Framework 3.2 Super Patch (only if you are installing TIPN components on TME 10 Framework, Version 3.2). See Chapter 2, "Installing Patches for TIPN Installation" for information on installing the TME 10 Framework 3.2 Super Patch.

- ■ TME 10 Framework TIPN Patch (see Chapter 2, "Installing Patches for TIPN Installation" for information on installing the TME 10 Framework TIPN Patch).

- ■ On every node from which you want to distribute a NetView/Inventory profile:

    - • TME 10 Framework, Version 3.2 or Version 3.6

    - • TME 10 Inventory, Version 3.2 or Version 3.6

- ■ On every NetView 5.1 server whose data you want to access:

    - • TME 10 Framework, Version 3.2 or Version 3.6

    - • TME 10 Inventory, Version 3.2 or Version 3.6

    - • NetView 5.1 (server only)

## Implementation Site

Inventory Integration consists of two sub-components, each of which must be installed in specific locations, or implementation sites.

- ■ The Tivoli NetView/Inventory Integration Adapter for NetView Server can be installed on nodes with the following:

    - • TME 10 Framework, Version 3.2 or Version 3.6

    - • TME 10 Inventory, Version 3.2 or Version 3.6

    - • NetView 5.1 server

    - • Accessibility to the RIM object inventory (see the *Inventory User's Guide, Version 3.2* or *Version 3.6*, for more information on the inventory RDBMS Interface Module (RIM) object)

- ■ The Tivoli NetView/Inventory Integration Profile can be installed on nodes with the following and must be installed on the TME 10 Inventory, Version 3.2 or Version 3.6, RIM host:

- • TME 10 Framework, Version 3.2 or Version 3.6
- • TME 10 Inventory, Version 3.2 or Version 3.6

## Supported Platforms

Inventory Integration operates on the following platforms:

■ AIX 4.*x*

■ HP-UX (NetView/Inventory Integration Profile only)

■ Windows NT

■ Solaris

# Installing Inventory Integration

Like TME 10 Inventory, Inventory Integration adds a profile type, **NetViewInventoryProfile**, that can be added to any profile manager. You create profiles that describe from which NetView servers to gather information and what information to gather.

Follow the steps below to install Inventory Integration from the Tivoli desktop.

## Configuring TME 10 Inventory

Refer to the *TME 10 Inventory User's Guide, Version 3.2* or *Version 3.6*, for information on setting up and configuring TME 10 Inventory. You must configure TME 10 Inventory before using the Inventory Integration component.

## Installing the NetView/Inventory Integration Adapter

Follow the steps in Chapter 1, "Installing TIPN Components" to install the Tivoli NetView/Inventory Integration Adapter for NetView Server from the Tivoli desktop.

1. Select the **Tivoli NetView/Inventory Integration Adapter for NetView Server**.

2. Install the Tivoli NetView/Inventory Integration Adapter for NetView Server on all NetView server nodes that you want to

---

target for NetView/Inventory exports. NetView must be installed on the target node.

**Note:** If you are installing the Tivoli NetView/Inventory Integration Adapter for NetView Server on a node running Windows NT, you must reboot the machine after installing the component.

## Installing the NetView/Inventory Integration Profile

After you install the Tivoli NetView/Inventory Integration Adapter for NetView Server on all NetView servers, install the NetView/Inventory Integration Profile.

Follow the steps above, choosing **NetView/Inventory Integration Profile** as the component to install, and select any TMR nodes from the **Available Clients** list. The nodes you select on which to install the Tivoli NetView/Inventory Integration Profile will be the ones from which you can create and distribute NetView/Inventory profiles.

At least one of the nodes you select must be the TME 10 Inventory RIM host.

## Installing RDBMS Tables and Views

Finally, to complete the Inventory Integration installation, install the Relational Database Management System (RDBMS) tables and views into the TME 10 Inventory RDBMS. To do this you will need to run one of the following scripts (depending on your database) on the TME 10 Inventory RIM host.

| RDBMS | Script |
|---|---|
| **Sybase**\*\* | nvinv_syb_schema.sql |
| **Microsoft SQL Server**\*\* | nvinv_ms_sql_schema.sql |
| **Oracle**\*\* | nvinv_ora_schema.sql |
| **DB2** | nvinv_db2_schema.sql |

These scripts install the tables and views needed to integrate TME 10 Inventory and Tivoli NetView. Execute these scripts so the tables and views are installed in the same manner as the TME 10 Inventory schema. This includes installing the new NetView tables into the same relational database in which TME 10 Inventory currently resides. See the *Inventory User's Guide, Version 3.2* or *Version 3.6* for more information on executing these scripts.

On UNIX machines, these scripts are located in **$BINDIR/TMF/TIPN** (**$BINDIR** is set by the Tivoli environment script). On Windows NT, these scripts are located in **%BINDIR%\TMF\TIPN**.

## Creating the NetView/Inventory Query Library

The next step in the installation process is to create the NetView/ Inventory Query Library. You can create the NetView/Inventory Query Library on any node on which you installed the NetView/Inventory Integration Profile.

Make sure that "QueryLibrary" is a managed resource in the policy region that you are installing it to. For more information, see "Creating a NetView/Inventory Profile," on page 4-7.

From a sourced Tivoli shell execute the following command located in the **$BINDIR/TMF/TIPN** directory:

**nvinv_create_queries.sh** *Policy_Region_Name*

where *Policy_Region_Name* is the name of the policy region where you want the query library installed.

Installing the query library adds a **NETVIEW_QUERIES** icon to the specified policy region, as shown in the **Policy Region** window.
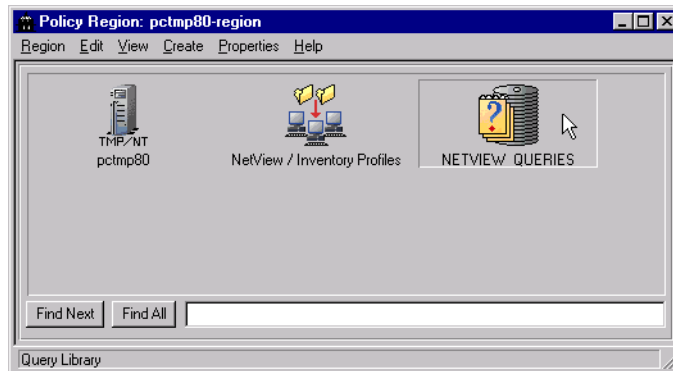
## Using Inventory Integration

Following is an outline for using the NetView Inventory Integration component:

1. Create a NetViewInventoryProfile that defines which objects and fields you want to gather from your NetView server(s).

2. Distribute your NetView/Inventory profile(s) to the NetView servers whose data you want. These subscribers will be only the nodes where the Tivoli NetView/Inventory Integration Adapter has been installed.

3. The distribution initiates the pull of data from your NetView database(s) to your TME 10 Inventory database.

4. Use the NetView Query Library to examine your completed inventory.

### Roles for Using NetView/Inventory Profiles

In order to create or edit a NetView/Inventory profile, you must have the following authorization roles defined for the administrator doing the work:

- **Inventory_edit**

- **Inventory_scan**

- **Inventory_query**

- **Inventory_view**

- **RIM_update**

- **RIM_view**

In addition, to distribute the NetView/Inventory profile, you must also have the role of **super**, **senior**, or **admin**.

Refer to the *TME 10 Framework User's Guide, Version 3.2* or *Version 3.6*, for more information about granting roles.

## Creating a NetView/Inventory Profile

The NetView/Inventory profiles you create define what objects and field values will be stored in the TME 10 Inventory database from your NetView database(s).

To create a NetView/Inventory profile, you must first make sure the NetView/Inventory profile is a managed resource in the policy region in which you are working.

Use the following procedure to make a NetView/Inventory profile a managed resource within a policy region:

1. From the Tivoli desktop, double-click on the policy region in which you want to create the NetView/Inventory profile. The Framework will display the **Policy Region** window.

2. Select **Managed Resource...** from the **Properties** menu in the **Policy Region** window to display the **Set Managed Resources** dialog.
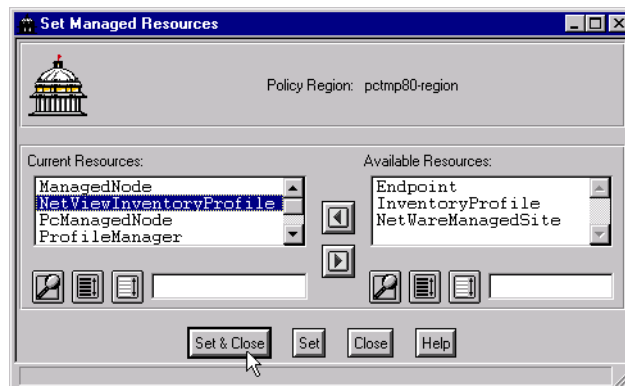
3. Select **NetViewInventoryProfile** from the **Available Resources** list and click the left arrow button. The **NetViewInventoryProfile** resource is moved from the **Available Resources** list to the **Current Resources** list.

4. Click the **Set & Close** button to close the dialog.

Now that the NetView/Inventory profile is a managed resource, you can create a profile using the following procedure:

1. Create a profile manager for the new profile (you can use an existing profile manager as well).

2. Open the profile manager by double-clicking on the icon of the profile manager you want to use.
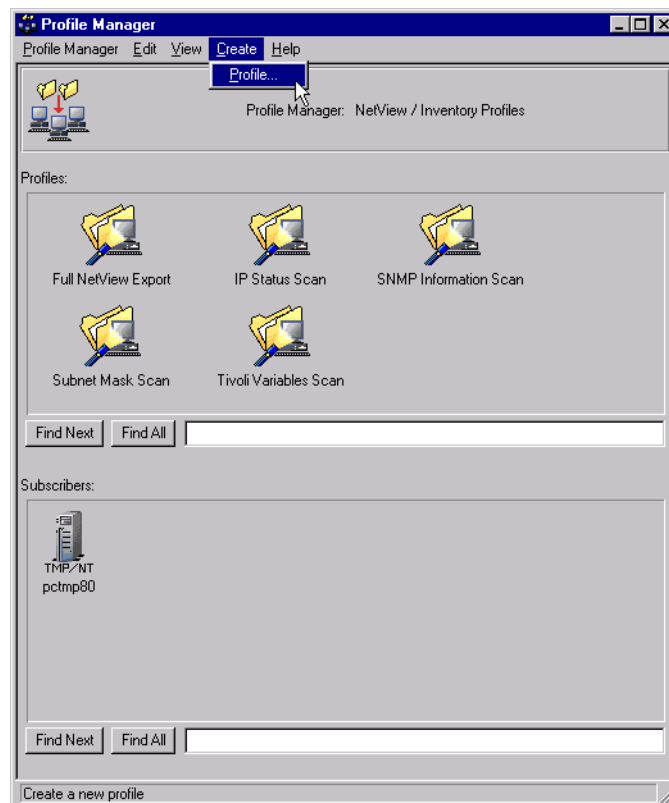
3.  Select **Profile** from the **Create** menu in the **Profile Manager** window to display the **Create Profile** dialog.

4.  From the **Create Profile** dialog, select the NetView/Inventory profile type and provide a label for the profile in the **Name/Icon Label** field.
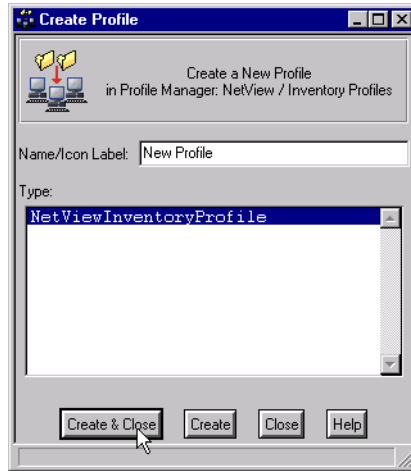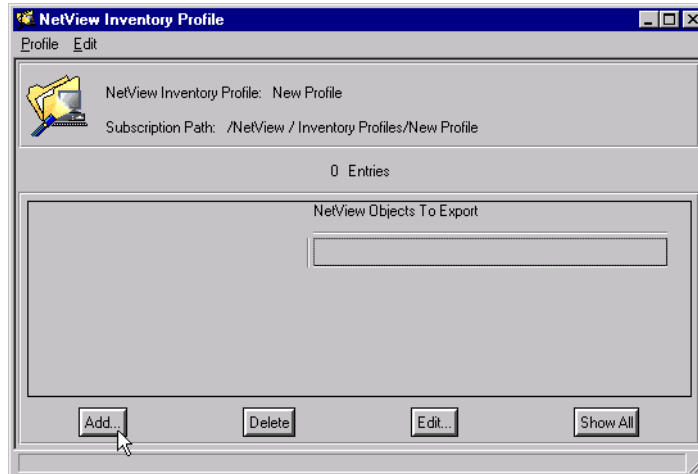


5.  **Click Set & Close** to close the dialog box.

You should now see a new profile icon in the **Profile Manager** window.
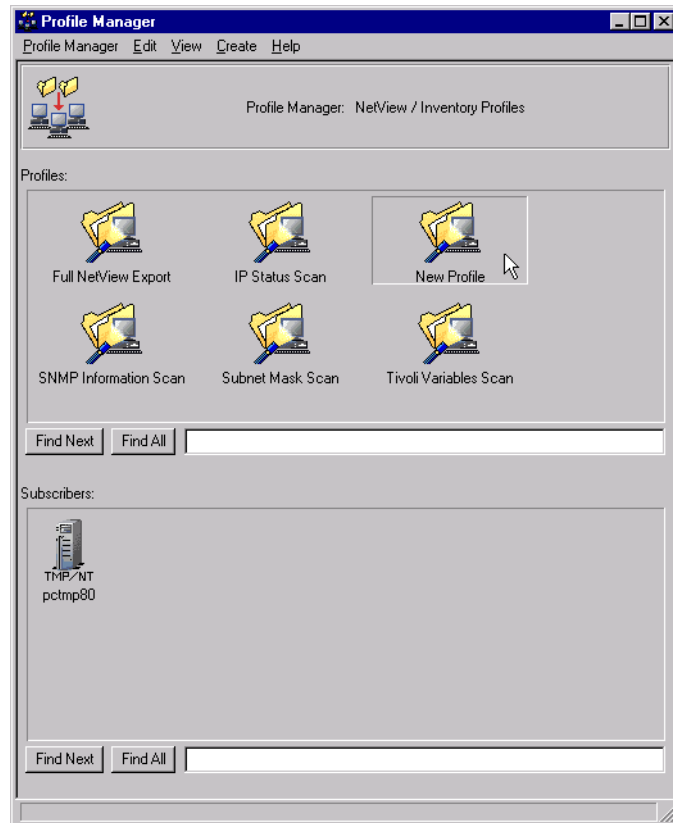
Use the following procedure to edit and customize your new profile:

1. To edit the profile, double-click on the **NetViewInventoryProfile** icon, which opens the **NetView Inventory Profile** dialog. Initially, the profile is empty.

2.    Click the **Add...** button on the **NetView Inventory Profile** dialog to indicate what types of objects should be retrieved from your NetView database(s). The **Add Entry to NetViewInventory Profile** dialog is displayed.
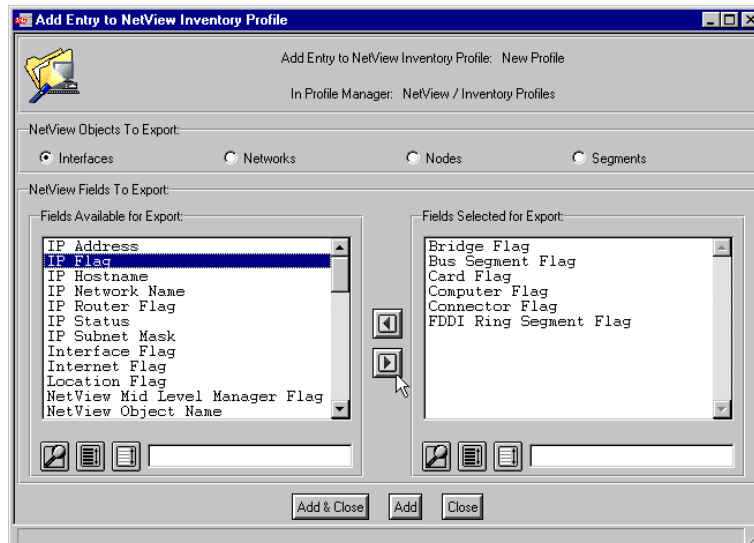
3. Choose what type of object you want exported from your NetView database. You can choose from **Interfaces**, **Networks**, **Nodes**, or **Segments**.

4. Choose the fields you want exported for each object of the type you have chosen. To do this, select a field in the **Fields Available for Export** list and click the right arrow button. The selected field is moved to the **Fields Selected for Export** list. You can select multiple fields at once.

5. Click the **Add** button if you want to choose another object type and set of fields to add to this profile. Click the **Add & Close** button to close the dialog.

6. Your profile should now list the types of objects that will be exported from your NetView database(s) to your TME 10 Inventory database. Choose **Close** from the **Profile** menu option to close the **NetView Inventory Profile** dialog.
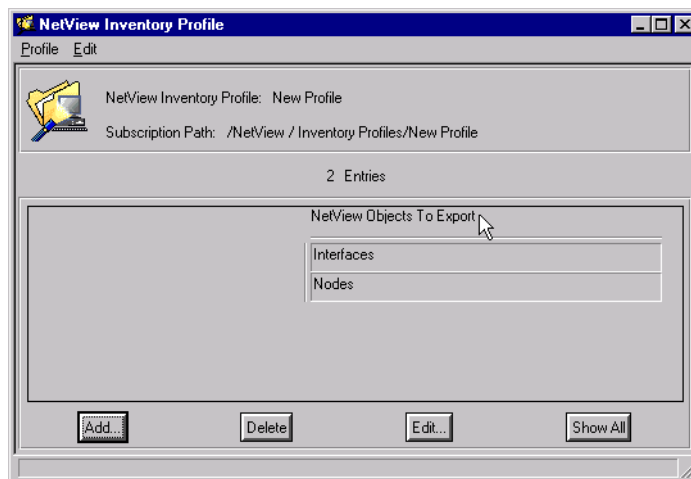


You are now ready to distribute the NetView/Inventory profile.

# Distributing the NetView/Inventory Profile

Distributing a NetView/Inventory profile to a NetView server exports the objects specified in the profile to the TME 10 Inventory database. Distribute a profile to your NetView servers by using one of the following methods:

■ Using the **Distribute** menu option from within the profile

■ Using drag and drop from within the profile manager

**Note:** A successful NetView/Inventory profile distribution results in a message posted in the Inventory Notices Group. Selecting the Inventory Notices Group allows you to view time stamps indicating when distributions occurred.

## Desktop

Follow these steps to use the menu option to distribute the profile:

1. Double-click on the **NetViewInventoryProfile** icon to display the **NetView Inventory Profile** dialog.

2. Select **Distribute** from the **Profile** menu option. The **Distribute Profile** dialog is displayed. You can distribute the profile from this dialog immediately or you can schedule the profile to be distributed.
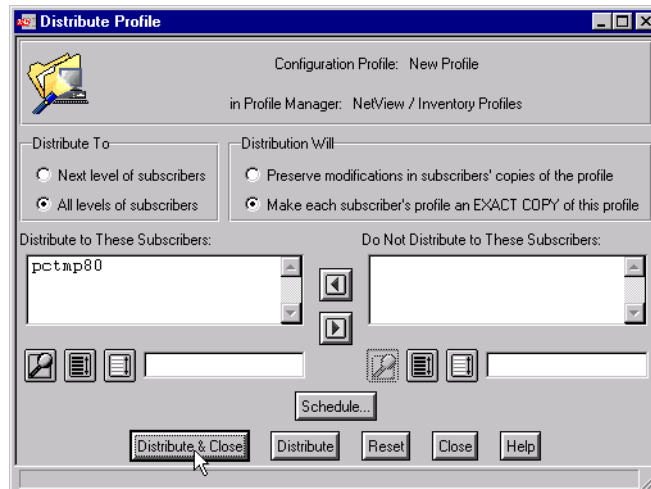
3.  Select **All levels of Subscribers** in the **Distribute To** box and **Make each subscriber's profile an EXACT COPY of this profile** in the **Distribution Will** box.

4.  Move your NetView servers to the **Distribute to These Subscribers** list, using the arrow buttons.

5.  Click the **Schedule...** button if you want to schedule your distribution from the **Add Scheduled Job** dialog. Otherwise, click on **Distribute & Close** to distribute the profile immediately. For more information on scheduling jobs, see the *TME 10 Framework User's Guide, Version 3.2* or *Version 3.6*.

### Drag and Drop

To use the drag and drop method of profile distribution use the following procedure:

1.  Double-click on the profile manager in which you created your NetView/Inventory profile.

2.  Drag the **NetViewInventoryProfile** icon from the **Profiles** box to the subscribers to which you want the profile distributed in the **Subscribers** box. Remember, profiles can only be distributed to those managed nodes running NetView.

NetView/Inventory profiles can be created and distributed to one or more NetView servers. This allows you to collect network hardware knowledge across all domains of network management.

Note the following limitations:

1.  Do not distribute multiple NetView/Inventory profiles to a single NetView server at one time.

2.  Node duplication may occur in the Inventory database if multiple NetView servers are targeted for distribution and they have management overlap (they have discovered and are currently managing overlapping IP segments of the network). For more information about NetView discovery and management, see the *NetView Administrator's Guide, Version 5.1*.

## Querying the TME 10 Inventory Database

Now that you have exported data from your NetView database to your TME 10 Inventory database you can run a number of queries against the data. Use the following procedure to run any of the pre-defined queries:

1.  Double-click on the policy region in which you installed the NetView Query Library.

2.  Inside the policy region you should see the **NETVIEW_QUERIES** icon. Double-click on it to display the **NETVIEW_QUERIES** dialog.
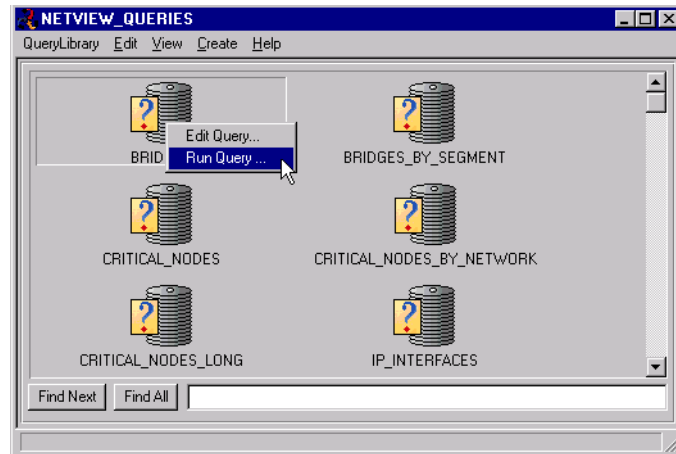
3. Right-click on any of the queries and choose **Run Query...** to execute any of the queries.

# Using Inventory Integration from the Tivoli Menu

Using the **Tivoli → Tivoli Inventory Queries** menu option, you can display hardware and software inventories of your network. You can use this information to make informed hardware and software network decisions.

These queries can be invoked by the network admininstrator on any node that has been discovered to be a TMR server or a TMR managed node. This discovery is done by the TMR Discovery component of TIPN. See "Configuring and Using Tivoli Discovery from NetView," on page 3-9 for more information on using the Tivoli Discovery.

# Scenarios for Using Inventory Integration

You have just seen how to build a profile to export many fields for many objects. This is resource, time, and bandwidth consuming. You will likely want to distribute a profile like this only once, to initially populate the database.

Now you can decide what dynamic NetView data you want to keep up-to-date in Inventory. You can design smaller profiles, such as one that only gets the IP status of the Node type objects. You can use the profile scheduler to automate this task for you.

Using Tivoli Inventory
Integration

# Using Tivoli TEC Integration for NetView

The Tivoli TEC Integration for NetView component of the Tivoli Integration Package for NetView (TIPN) interconnects NetView and the TME 10 Enterprise Console (TEC).

This chapter describes the requirements for installing Tivoli TEC Integration for NetView. It also shows you how to configure and use the component, and gives possible usage scenarios.

## Installation Requirements

Before installing the TEC Integration component, make sure your system meets the requirements below.

### Hardware Requirements

Please see specific NetView and Tivoli NetView product documentation for hardware requirements. The TEC Integration component adds no additional requirements.

### Software Requirements

TEC Integration requires the following components:

■    TME 10 Framework, Version 3.2 or Version 3.6.

---

- TME 10 Framework 3.2 Super Patch (only if you are installing TIPN components on TME 10 Framework, Version 3.2). See Chapter 2, "Installing Patches for TIPN Installation" for information on installing the TME 10 Framework 3.2 Super Patch.

- TME 10 Framework TIPN Patch (see Chapter 2, "Installing Patches for TIPN Installation" for installation instructions).

- NetView, Version 5.1

- TME 10 Enterprise Console (TEC), Version 3.1 or Version 3.6

- The following TEC patches (both included in the **PATCHES** directory of the TIPN Installation CD-ROM):

  • TEC31-0012, located in the **PATCHES/TEC31012** directory

  • 3.1-TEC-0030, located in the **PATCHES/TEC31030** directory

The TEC console must be installed before these patches are installed. For more information about the TEC patches, see the readme file in the **PATCHES** directory.

## Implementation Site

Components must be installed in specific locations, or implementation sites.

Tivoli NetView/TEC Integration for NetView Client must be installed on a NetView client that has a TEC console installed. Tivoli NetView/TEC Integration for NetView Server must be installed on a NetView server that has a TEC console installed.

You must have a TEC server available in the TMR in which NetView is installed. The TEC server does not have to be installed on the same machine as NetView.

It is possible to use the data from a TEC server located in a TMR other than that on which the TEC Integration component is installed, if the TMRs are interconnected. See "Using the TEC Integration Component From NetView," on page 5-4 for more information.

## Supported Platforms

TEC Integration operates on the following platforms:

- AIX 4.*x*
- Solaris
- Windows NT

# Installing TEC Integration

Follow the steps in Chapter 1, "Installing TIPN Components" to install the TEC Integration component.

1.  Select **Tivoli NetView/TEC Integration for NetView Server** or **Tivoli NetView/TEC Integration for NetView Client**

2.  If you decide to install Tivoli NetView/TEC Integration for NetView Server, install the component on all NetView servers

3.  If you decide to install the Tivoli NetView/TEC Integration for NetView Client, install the component on all NetView clients

**Note:** You should close the NetView user interface while installing TIPN components. User interface additions will not appear until after you have restarted the NetView console.

# Configuring and Using TEC Integration

Both NetView and TEC should be correctly installed, and event forwarding should be set as described in the NetView Administrator's Guide, Version 5.1. The TEC connection to its database should be up and running. Follow the *TME 10 Enterprise Console User's Guide, Version 3.1* or *Version 3.6*, for more information on how to verify this connection.

## Roles for Using Tivoli TEC Integration for NetView

To use the TEC Integration component, you must have all of the following authorization roles:

Using Tivoli TEC Integration for NetView

- **RIM_view**

- **senior**

- **user**

# Using the TEC Integration Component From NetView

The TEC Integration component provides the following functions from your NetView server:

- Access to TEC events from NetView.

- The ability to create TEC event groups from NetView SmartSet (Collections). See the *TME 10 Enterprise Console User's Guide, Version 3.1* or *Version 3.6*, for more information on TEC event groups and the NetView Administrator's Guide, Version 5.1, for more information about NetView's SmartSets (Collections).

## Displaying TEC Events

To display TEC events from your NetView console you can use the **Events→TEC Events** menu option from the **Monitor** menu. This option requests events for all selected node resources in a NetView submap. On UNIX platforms only, you may also request events for a single node in a NetView submap using the contextual **Events→TEC Events** menu option from the **Monitor** menu for this object. All current TEC events for the selected resource(s) are displayed in a separate window.

The list of events is not dynamically updated. To see an updated list you need to run the command again.

When you display the TEC events for an object, you are actually invoking a NetView-style application implemented by the **disptec** executable. To update the parameters used by **disptec** you must edit its registration file (located in **/usr/OV/registration/C/tivoli** on UNIX and **%NV_DRIVE%\usr\ov\registration\c\tivoli** on Windows NT).

This executable accepts the following parameters, which can only be changed in the registration file:

**–n** *number_of_events*

**–s** *TECServer*

where *number_of_events* is the number of TEC events you want displayed (the default value is 10) and **–s** is the location of the TEC server using the TMR syntax (the default location is the local server). The default syntax follows the name registry format, such as **@EventServer#hongo-region**.

The registration file has the following entry, which tells NetView how to launch the **disptec** executable:

(UNIX)

```
Command -Initial -Shared "${disptec:-/usr/OV/ \
bin/disptec}";
```

(Windows NT)

```
Command -Initial -Shared "%NV_DRIVE%\usr\ov \
\bin\disptec.exe";
```

If you want to use different options for **disptec**, this line must be changed. For example, to retrieve the last 100 events from the TEC server running on the **brazil** TMR, you should change the registration file to the following:

(UNIX)

```
Command -Initial -Shared "${disptec:-/usr/OV/ \
bin/disptec -n 100 -s@EventServer#brazil}";
```

(Windows NT)

```
Command -Initial -Shared "%NV_DRIVE%\usr\ov\ \
bin\disptec.exe -n 100 -s@EventServer#brazil";
```

See the *NetView Administrator's Guide, Version 5.1*, for more information on registration files.

If you change the registration file, these options will be available the next time you restart the NetView console.

## Creating TEC Event Groups

You can create TEC event groups to filter specific events for a SmartSet (Collection) that you have created on NetView. For example, you may create a SmartSet for all your critical routers, create a TEC event group for this SmartSet, and then assign this event group to a TEC console.

To create TEC event groups from NetView SmartSets (Collections), use the **/usr/OV/bin/collToEg** UNIX command (**%NV_DRIVE%\usr\ov\bin\colltoeg** on Windows NT). Following is the usage for **collToEg**:

**collToEg –c** *CollectionName* [**–n** *EventGroupName*] [**–s** *TECServer*]

where

*CollectionName*

        Name of the SmartSet (Collection) to use

*EventGroupName*

        Optional name for the TEC event group (if not provided, this defaults to the same name as the SmartSet)

*TECServer*    Optional location of the TEC server (if not provided, the default is the TEC server on the local machine)

The default syntax follows the name registry format, such as **@EventServer#hongo-region.**

Once you create your TEC event group, you must close any open event message lists and TEC consoles to make the group available in the list of event groups that you can assign to your Enterprise Console. TEC event groups are created in the event server, and open TEC consoles are not updated dynamically.

Event groups created from SmartSets are static. They do not change even if the Smartset on which they are based is changed.

Follow these steps to make the new TEC event group available:

1.    Close your TEC consoles.

2.    Right-click on your event console icon and select **Assign Event Groups...** from the pop-up menu to display the **Assign Event Groups** dialog.
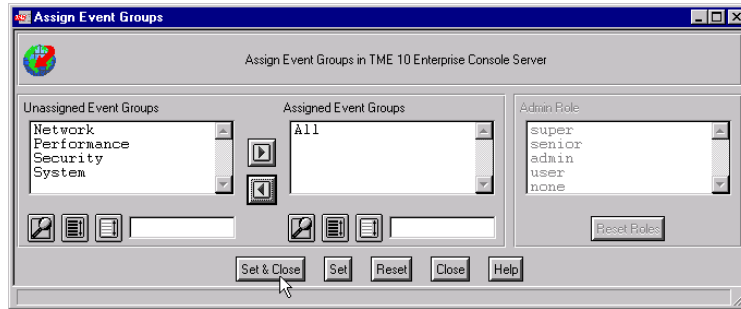
3. Select the new group to add to the **Assigned Event Groups** scrolling list.

4. Right-click on your event console icon and select **Monitor...** from the pop-up menu. The new event group is now available in the **Enterprise Console** window.

## Using TEC Tasks from the Tivoli Enterprise Console

The following functions are available as TEC tasks after you install the Tivoli TEC Integration for NetView:

■ **Ping**

■ **Demand Poll**

■ **Test Connectivity**

■ **TCP Connections**

■ **Find Route**

■ **MIB Browser**

■ **Highlight**

The **Test Connectivity** and **TCP Connections** functions are not available on Windows NT running NetView.

### Using the NetView TEC Tasks

Follow these steps to execute a NetView TEC task:

1. Select an event from the TEC message list.

Using Tivoli TEC Integration for NetView
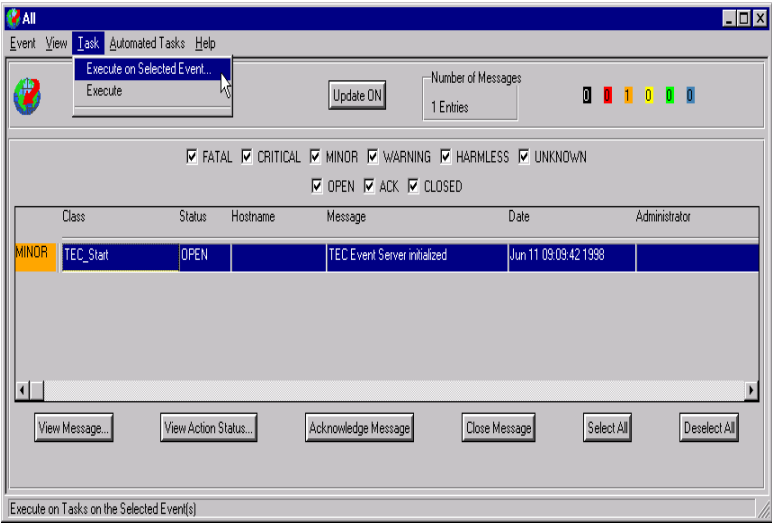
2. Select **Execute on Selected Event...** from the **Tasks** menu option on the TEC console menu bar to open the **TEC Tasks** dialog.

3. Double-click on **NetView TEC Tasks** to open the NetView TEC Tasks Library.
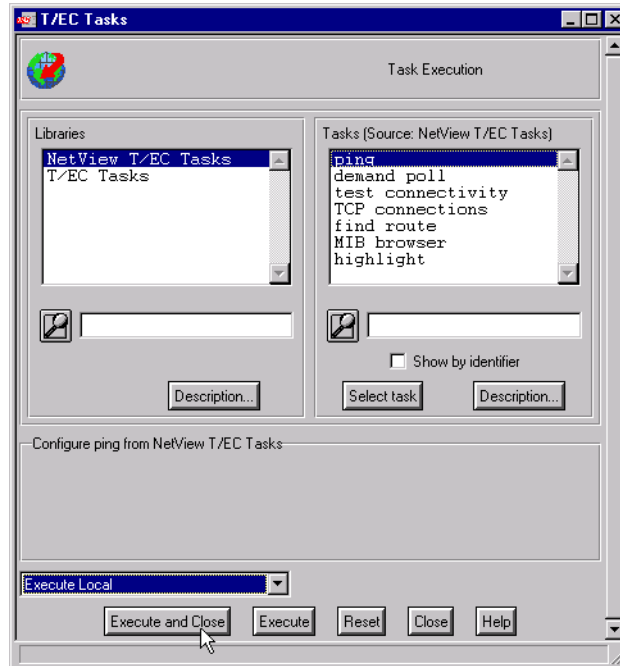
4. Select one of the tasks by double-clicking on it.

5. To execute the task, select **Execute Local** from the option menu at the bottom of the **TEC Tasks** dialog.

6. Click the **Execute** button. This leaves the dialog box open if you wish to execute any other task for the same selected event. The dialog box remains valid for the original event. Selecting a new event does not change the settings for the task execution.

## Understanding the TEC Task Integration

When you choose a NetView TEC task to execute, a trap is sent from your TEC console to the configured NetView server.

If your NetView server is running on an UNIX machine, the trap is received by the **dispsub** process, located in **/usr/OV/bin**, and will be processed accordingly. On UNIX platforms, refer to the **dispsub** man page for more details.

If your NetView server is running on Windows NT, this trap is processed by the **trapd** process, using a special trap configuration defined by **trapd.conf**. This configuration will launch a shell script to execute the task you selected. **trapd.conf** is located under **%NV_DRIVE%\usr\ov\conf**.

TEC does not require SNMP to send traps. The traps that are sent are formatted internally by TEC and sent to NetView using internal procedures. This is valid both for UNIX and Windows NT.

# Scenarios for Using TEC Integration

Below are scenarios for using the TEC Integration component.

## Retrieving TEC Events

To retrieve TEC events from the TEC console, select one or more nodes in your NetView submap (from the NetView console), and select the **Events**→**TEC Events** menu option from the **Monitor** menu. If TEC has events for any of the selected nodes, they are displayed in a dialog.
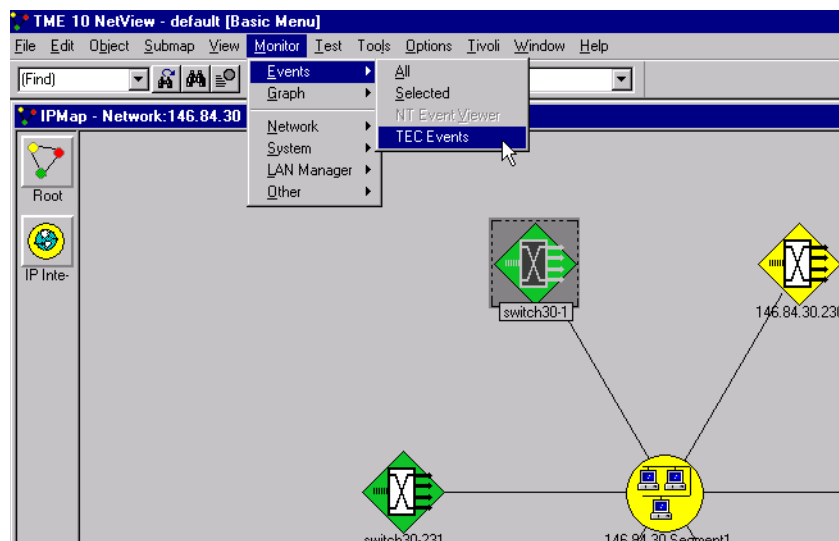
## Running a NetView TEC Task for a Selected Event

You can use the TEC Integration component to run a NetView TEC task for a selected event.

1.  Select an event from the TEC message list.
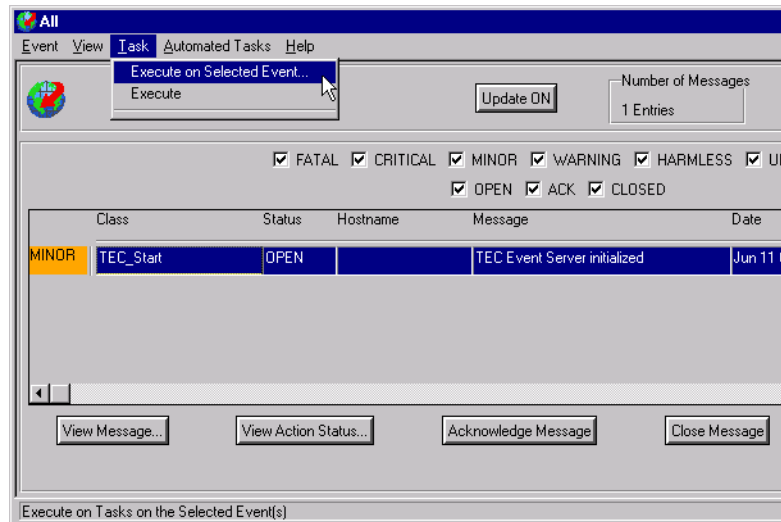


2.  Select **Execute on Selected Event...** from the **Tasks** menu option on the TEC message list menu bar. You are prompted with a dialog that allows you to select a TEC or NetView task.

3.  Double-click on the **NetView TEC Tasks** entry for a list of available tasks you can execute for the selected event. These are displayed on the right side of the dialog.
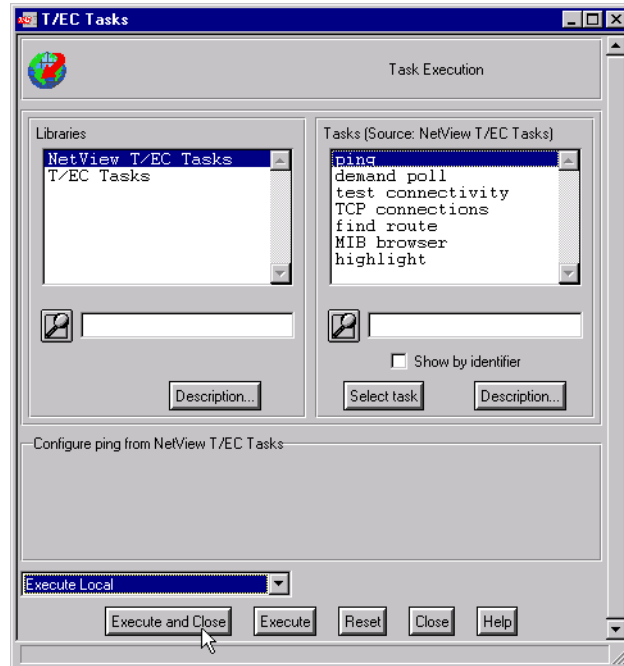
4. Double-click on one of the tasks, such as **ping**. You can check the task description by clicking the **Description..** button.

5. Select **Execute Local** from the menu at the bottom of the window. This is necessary because of the way TEC tasks are executed. The **Execute on Selected Node** option would execute on the node referred to in the selected event, requiring it to be a Tivoli managed node.

6. Click the **Execute** or **Execute and Close** button and check the results.

This procedure is the same for all tasks you have available.

## Monitoring Events from NetView SmartSets (Collections)

You can use the TEC Integration component to create an event group from an existing NetView SmartSet (Collection). This allows you to monitor only events generated by the nodes in your Smartset (Collection).

Use the **collToEg** command to create a new event group for TEC. If you create your event group with the same name as your SmartSet (Collection), you may verify the created event group by using the following TEC command:

**wlseg –f** *SmartSetName*

The output of this command shows all the IP addresses that correspond to the elements of your SmartSet (Collection).

Creating your event group with the same name as your SmartSet (Collection) is the default procedure.

Using Tivoli TEC Integration for NetView

# 6

# Troubleshooting

This chapter includes suggestions and tips to help you troubleshoot problems and issues that may arise in the installation or use of Tivoli Integration Package for NetView (TIPN) components.

For the most recent list of known issues, see the readme file on the TIPN Installation CD-ROM.

## Clearing NetView Databases and Smartsets

If you clear your NetView databases completely, you will remove all of the TIPN Smartsets (Collections).  You will have to recreate these smartsets manually, using **SETUTIL=/usr/OV/bin/nvUtil** (UNIX) or **SETUTIL=%NV_DRIVE%\usr\OV\bin\smartsetutil** (Windows NT). Following are the usage statements:

```
$SETUTIL a TMA "TMA Gateways and Endpoints" \
"("isTMAGateway"="True")||("isTMAEndpoint"= \
"TRUE")"

$SETUTIL a TMA_Gateway "TMA Gateways" " \
("isTMAGateway"="True")"

$SETUTIL a TMA_Endpoint "TMA Endpoints" \
"("isTMAEndpoint"="True")"
```

```
$SETUTIL a TME "TME Servers and ManagedNodes" \
"("isTivoliServer"="True")||("isTivoliMn"= \
"TRUE")||("isTivoliPcMn"="TRUE")"

$SETUTIL a TME_Servers "TME Servers" \
"("isTivoliServer"="True")"

$SETUTIL a TME_Managed "TME ManagedNodes" \
"("isTivoliMn"="True")||("isTivoliPcMn"= \
"True")"


$SETUTIL a TMA_Unmanaged "Non-Tivoli Nodes" \
"("isComputer"="True")&&(!"isTivoliMn"= \
"True")&&(!"isTivoliPcMn"="True")&& \
(!"isTivoliServer"="True")&&(!"isTMAGateway"= \
"True")&&(!"isTMAEndpoint"="True")"
```

# Creating TEC Event Groups

When you create TEC event groups, errors may occur in the following cases:

■   The SmartSet (Collection) referred to in the command does not exist. Check this using the **nvUtil** NetView command. On UNIX, you can also use the Collection Editor.

■   The NetView SmartSet (Collection) daemon, **nvcold**, is not running. Check this using the **ovstatus nvcold** NetView command, and restart the **nvcold** daemon if necessary. Use the **ovstart nvcold** command to restart the **nvcold** daemon.

■   The EventServer is in a region not interconnected to your TMR. Check the TMR connection, and update the classes between the TMRs using the **wupdate –r All All** command. Check for the EventServer class using the **wlookup –ar EventServer** command.

Also, unlike SmartSets (Collections), TEC event groups are not updated dynamically. If your SmartSet (Collection) changes, you will need to run the **collToEg** command again to update the TEC event group. See "Creating TEC Event Groups," on page 5-5 for more information about using the **collToEg** command.

# Displaying TEC Events

If an error dialog shows the following message:

```
No events available for the selected resource.
```

investigate the following:

- Events might not be available for the selected resources. This depends on the TEC configuration for holding events, or the active rules for deleting events from the TEC database. Check your TEC configuration and the TEC message list for events related to the selected resource.

- Check the Tivoli roles that are active for the user that is using NetView. Roles needed are **user**, **senior**, and **RIM_view**.

- Check for a corrupted database. This component retrieves (from NetView) the IP address that corresponds to the selected resource. If the NetView database is corrupted (for example, it is reporting a bad IP address for a selected resource), this error can occur.

The UNIX file **/usr/OV/log/disptec.log** (**%NV_DRIVE%\usr\ov\log\disptec.log** on Windows NT) shows the command used to retrieve events from TEC, as well as other useful information. A temporary file (**out.tec**) is created in **/usr/OV/tmp** (**%NV_DRIVE%\usr\ov\tmp** on Windows NT) for the events retrieved from TEC. You can check the contents of this file for additional information.

# Distributing NetView/Inventory Profiles

You may encounter problems while distributing NetView/Inventory profiles.

## Distributing Multiple Profiles to a Single Server

If you distribute multiple NetView/Inventory profiles to a single NetView server at one time, you will receive the following error message:

```
Resource in use.
```

If this happens, repeat your distributions, waiting for each to complete before distributing the next NetView/Inventory profile. See

Troubleshooting

---

"Distributing the NetView/Inventory Profile," on page 4-13 for more information about distributing NetView/Inventory profiles.

## Problems with Node Duplication

Node duplication *may* occur in the Inventory database if multiple NetView servers are targeted for distribution *and* they have management overlap (they have discovered and are currently managing overlapping IP segments of the network). For more information about NetView discovery and management, see the *NetView Administrator's Guide, Version 5.1*.

# Installing the 3.1-TEC-0012 Patch

When installing the 3.1-TEC-0012 patch on a non-TMR server machine running AIX 4.3, you may get an error message saying something went wrong.

This problem does not prevent the correct installation of the binaries necessary to make the TEC integration to NetView. Install the 3.1-TEC-0030 patch on the top of the 3.1-TEC-0012 patch, which will resolve the problems.

If you install the 3.1-TEC-0012 patch once on your TMR server, and then on all console nodes, you will not have this error.

The error message will vary. depending on what parameters you are using. The text after the word "FAILED" (the "soft error") will give you more detail as to the actual error. The message will look something like the following:

```
Something went wrong:
Media Packet:
"CDROM/PATCHES/TEC/TEC31012/FILE27.PKT"
```
(or the name of the path from which you are installing your patch)
```
aixnv6:FAILED (soft error)
Failure: the last few lines of the error log
(/tmp/TEC31-0012_DB_after.error):
+ [ -d tmp ]
+ _TMP=/tmp
+ [ ! -d /tmp ]
```

```
+ export _TMP
+ [ -f /tmp/TransferEnv ]
+ PatchId=TEC31-0012_ALIDB_
+ PATH=/usr/local/Tivoli/bin/aix4-r1/bin:/bin: \
/usr/bin:/usr/ucb:/usr/ucb
+ [ -d /var/spool/Tivoli/aixnv6.db ]
+ cd /var/spool/Tivoli/aixnv6.db
+ sh
+ 1> /tmp/TEC31-0012_ALIDB_.output 2>
/tmp/TEC31-0012_ALIDB_.error ] completed with
errors.
Registering patch installation
attributes...registered.
Finished patch installation.
```

# Running NetView TEC Tasks from the TEC Console

Errors might occur if the **PATH** environment variable is not set correctly.

For example, when using the **ping** task, the **ping** command must be available from the **PATH** from which NetView is running. Should an error occur, check the log under **/usr/OV/log/dispsub.log** on UNIX platforms or **%NV_DRIVE%\usr\ov\log\dispsub.log** on Windows NT. This log shows which command was executed upon the task selection, along with other useful information.

On UNIX machines only, tasks are executed only when the TEC console and the NetView console are running in the same display. There is an internal check that compares the **display** variable from which the task was issued and the **display** variable from which the NetView console is running. In UNIX, tasks are only executed when these two values match. The same applies to the **NetView Submap...** command under the **Events** option in the TEC message list menu bar.

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# Tivoli does not Start from NetView on Windows NT

If Tivoli does not launch from a NetView console running on Windows NT, make sure the **PATH** environment variable is set correctly.

# Tivoli Menu does not Appear after Installing TIPN

You should close the NetView console while installing TIPN components. User interface additions do not appear until after you have restarted the NetView console.

# TME 10 Framework TIPN Patch

You must install the TME 10 Framework TIPN Patch before installing any other TIPN components. If you try to install TIPN components without the prerequisite patch, you will receive the following error message:

```
The following products or patches need to be
installed before you can continue with this
portion of the installation:
"3.2-TIPN-0001".
```

See Chapter 2, "Installing Patches for TIPN Installation" for information on installing this patch.

# Uninstalling TIPN

If you reinstall NetView, you must run the TIPN remove scripts before reinstalling TIPN components. This can be done before or after reinstalling NetView.

You must run the appropriate remove scripts to uninstall TIPN components. The following is a list of the TIPN remove scripts:

- **rmdiagnostic.sh**
- **rmnvin_adapter.sh**
- **rmnvin_profile.sh**
- **rmtipntec.sh**

See the following procedures for removing TIPN from nodes running Windows NT and UNIX.

## Uninstalling TIPN from Nodes Running UNIX

TIPN removal scripts are located in **$BINDIR/TMF/TIPN** on UNIX nodes. Change to this directory and source the Tivoli environment script by running the **setup_env** command. The default location for the Tivoli environment script is **/etc/Tivoli/setup_env.sh** (or **.../setup_env.csh**, depending on which UNIX shell you are running).

Source the appropriate removal script (for example, **rmdiagnostics.sh** or **rmdiagnostics.csh**).

## Uninstalling TIPN from Nodes Running Windows NT

On nodes running Windows NT, the removal scripts are located in **%BINDIR%\TMF\TIPN**. The default location for theTivoli environment script is **%SystemPath%\system32\drivers\etc\Tivoli\ setup_env.cmd**.

On nodes running Windows NT, you must start a BASH shell by executing the **%BINDIR%\tools\bash.exe** command. Enter the remove script (for example, **.../rmdiagnostic.sh**) to remove the TIPN component.

# Viewing Diagnostics Reports in a Web Browser

In order to view Tivoli Diagnostics reports in an internet browser, the browser must be installed and configured correctly.

If you are not able to view Tivoli Diagnostics reports in your browser, verify that you can launch your browser from the same command line from which you launched NetView.

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# A

# TIPN User Interface Additions

The Tivoli Integration Pack for NetView (TIPN) adds menu options to the existing NetView user interface.

This appendix shows the **Tivoli** menu options that are added to the NetView user interface after you install all of the TIPN components.

## The Tivoli Menu

The Tivoli menu is added to your NetView console when you install Tivoli Framework Network Diagnostics for NetView Server and Tivoli Framework Network Diagnostics for NetView Client, or the Tivoli NetView/Inventory Integration, or both. The Tivoli menu gives you access to Tivoli Diagnostics and Inventory Integration functions from within the NetView Console.

Reference

```
                                              Launch Tivoli Desktop

                                              oserv ping
                                              remote ping
                                              remote traceroute
                                              remote netstat

                                              Perform Name Registry Discovery

                                              Generate Reports

                                              Unmanaged Nodes by Segment

                                              Gateways by Segment
                                              Endpoints by Segment
                                              Endpoints by Gateway
                                              Endpoints by Interp

   Tivoli                                      Tivoli Servers by Segment
      Tivoli Desktop            ▶             ManagedNodes by Segment
      Tivoli Network Diagnostics ▶            ManagedNodes by Tivoli Server
      Tivoli Discovery          ▶             PcManagedNodes by Proxy
      Tivoli Reports            ▶
      Tivoli Web Access         ▶             TMA Web Access
      Tivoli Locate             ▶             TMR Web Access
      Tivoli Inventory Queries  ▶
                                              Tivoli Servers...
                                              Tivoli Managed Nodes...
                                              Tivoli PcManaged Nodes...
                                              TMA Gateways...
                                              TMA Endpoints...

                                              Hardware Inventory
                                              Software Inventory
```

# The TEC Events Menu Option

When you install the TEC Integration component, the **TEC Events** entry is added to **Monitor** → **Events ...** menu of the NetView console.

```
   Monitor
      Events    ▶      All
      Graph     ▶      Selected
                       NT Event Viewer
      Network   ▶      TEC Events
      System    ▶
      LAN Manager ▶
      Other     ▶
```

# B
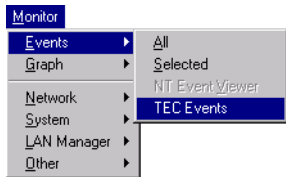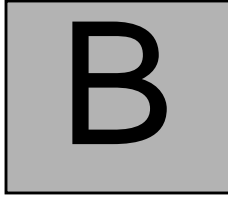
## TME 10 Inventory Schema Additions

The Tivoli NetView/Inventory Integration component of the Tivoli Integration Pack for NetView (TIPN) uses the existing TME 10 schema. The Tivoli Integration component simply adds new tables and views to store and later render the NetView-based information.

This appendix shows the tables for the additional TME 10 Inventory schema tables and views.

## Tables

Tables are the database structures that hold data. Data is pushed from NetView to tables in the TME 10 Inventory storage repository.

| Table | Details |
|---|---|
| NV_NODES | Table for storing node objects from ovwdb. |
| NV_INTERFACES | Table for storing interface objects from ovwdb. |
| NV_SEGMENTS | Table for storing segment objects from ovwdb. |
| NV_NETWORKS | Table for storing network objects from ovwdb. |

Reference

# NV_NODES

| Column Name | Primary Key |
|-------------|-------------|
| Selection_Name | YES |
| IP_Hostname | NO |
| IP_Status | NO |
| isPrinter | NO |
| isIPRouter | NO |
| vendor | NO |
| isComputer | NO |
| isConnector | NO |
| isBridge | NO |
| isRouter | NO |
| isPC | NO |
| isIP | NO |
| isMLM | NO |
| isSNMPSupported | NO |
| SNMP_sysDescr | NO |
| SNMP_sysLocation | NO |
| SNMP_sysContact | NO |
| SNMP_sysObjectID | NO |

| Column Name | Primary Key |
|---|---|
| SNMPAgent | NO |
| isTivoliMn | NO |
| isTivoliPcMn | NO |
| isTMA | NO |
| isTME | NO |
| isTMAGateway | NO |
| isTMAEndpoint | NO |
| Tivoli_Interp | NO |

## NV_INTERFACES

| Column Name | Primary Key |
|---|---|
| Selection_Name | YES |
| IP_Address | NO |
| IP_Subnet_Mask | NO |
| IP_Status | NO |
| isCard | NO |
| isInterface | NO |
| isIP | NO |
| SNMP_ifType | NO |

Reference

| Column Name | Primary Key |
|---|---|
| SNMP_ifPhysAddr | NO |
| SNMP_ifDescr | NO |
| TopM_Network_ID | NO |
| TopM_Segment_ID | NO |
| TopM_Node_ID | NO |

## NV_SEGMENTS

| Column Name | Primary Key |
|---|---|
| Selection_Name | YES |
| IP_Status | NO |
| isLocation | NO |
| isNetwork | NO |
| isInternet | NO |
| isSegment | NO |
| isBusSegment | NO |
| isStarSegment | NO |
| isTokenRingSegment | NO |
| isFDDIRingSegment | NO |
| isSerialSegment | NO |

| Column Name | Primary Key |
|---|---|
| isIP | NO |
| TopM_Network_ID | NO |

## NV_NETWORKS

| Column Name | Primary Key |
|---|---|
| Selection_Name | YES |
| IP_Address | NO |
| IP_Subnet_Mask | NO |
| IP_Status | NO |
| IP_Network_Name | NO |
| isLocation | NO |
| isNetwork | NO |
| isInternet | NO |
| isSegment | NO |
| isBusSegment | NO |
| isStarSegment | NO |
| isTokenRingSegment | NO |
| isFDDIRingSegment | NO |
| isIP | NO |

Reference

# Views

Views are used by Tivoli to create querable abstractions from the tables. All queries are based on views.

| View | Details |
|---|---|
| NV_NODE_BASE_VIEW | View that provides basic information from Table NV_NODES. |
| NV_FACE_BASE_VIEW | View that provides basic information from Table NV_INTERFACES. |
| NV_SEG_BASE_VIEW | View that provides basic information from Table NV_SEGMENTS. |
| NV_NET_BASE_VIEW | View that provides basic information from Table NV_NETWORKS. |
| NV_NODE_ENH_VIEW | View that provides enhanced information that links interface information in NV_INTERFACES to respective nodes in NV_NODES. |
| NV_INVENTORY_VIEW | View that provides enhanced information that links interface information in NV_INTERFACES to respective nodes in NV_NODES as well as information from Tivoli Inventory's INVENTORYDATA and NETWORK_NODE tables. |

## NV_NODE_BASE_VIEW

| Column Name |
|---|
| Selection_Name |
| IP_Hostname |
| IP_Status |

| Column Name |
| --- |
| isPrinter |
| isIPRouter |
| vendor |
| isComputer |
| isConnector |
| isBridge |
| isRouter |
| isPC |
| isIP |
| isMLM |
| isSNMPSupported |
| SNMP_sysDescr |
| SNMP_sysLocation |
| SNMP_sysContact |
| SNMP_sysObjectID |
| SNMPAgent |
| isTivoliMn |
| isTivoliPcMn |
| isTMA |
| isTME |

Reference

| Column Name |
| --- |
| isTMAGateway |
| isTMAEndpoint |
| Tivoli_Interp |

# NV_FACE_BASE_VIEW

| Column Name |
| --- |
| Selection_Name |
| IP_Address |
| IP_Subnet_Mask |
| IP_Status |
| isCard |
| isInterface |
| isIP |
| SNMP_ifType |
| SNMP_ifPhysAddr |
| SNMP_ifDescr |
| TopM_Network_ID |
| TopM_Segment_ID |
| TopM_Node_ID |

## NV_SEG_BASE_VIEW

| Column Name |
| --- |
| Selection_Name |
| IP_Status |
| isLocation |
| isNetwork |
| isInternet |
| isSegment |
| isBusSegment |
| isStarSegment |
| isTokenRingSegment |
| isFDDIRingSegment |
| isSerialSegment |
| isIP |
| TopM_Network_ID |

## NV_NET_BASE_VIEW

| Column Name |
| --- |
| Selection_Name |
| IP_Address |

Reference

| Column Name |
| --- |
| IP_Subnet_Mask |
| IP_Status |
| IP_Network_Name |
| isLocation |
| isNetwork |
| isInternet |
| isSegment |
| isBusSegment |
| isStarSegment |
| isTokenRingSegment |
| isFDDIRingSegment |
| isIP |

# NV_NODE_ENH_VIEW

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| Node_Name | NV_NODES. Selection_Name | NV_INTERFACES.TopM_ Node_ID = |
| IP_Hostname | NV_NODES.IP_ Hostname | NV_NODES.Selection_ Name |
| IP_Address | NV_INTERFACES .IP_Address | and |
| IP_Subnet_Mask | NV_INTERFACES .IP_Subnet_Mask | NV_INTERFACES.TopM_ Network_ID = |
| | | NV_NETWORKS.Selection _Name |
| Node_Status | NV_NODES.IP_ Status | and |
| Vendor_Info | NV_NODES. vendor | NV_INTERFACES.TopM_ Segment_ID = |
| SNMPDescription | NV_NODES. SNMP_sysDescr | NV_SEGMENTS. Selection_Name |
| SNMPLocation | NV_NODES. SNMP_sysLocation | N/A |
| SNMPContact | NV_NODES. SNMP_sysContact | N/A |
| SNMPAgent | NV_NODES. SNMPAgent | N/A |
| isTivoliMn | NV_NODES. isTivoliMn | N/A |

Reference

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| isTivoliPcMn | NV_NODES. isTivoliPcMn | N/A |
| isTMA | NV_NODES. isTMA | N/A |
| isPrinter | NV_NODES. isPrinter | N/A |
| isIPRouter | NV_NODES. isIPRouter | N/A |
| isComputer | NV_NODES. isComputer | N/A |
| isConnector | NV_NODES. isConnector | N/A |
| isBridge | NV_NODES. isBridge | N/A |
| isRouter | NV_NODES. isRouter | N/A |
| isPC | NV_NODES. isPC | N/A |
| isNodeIP | NV_NODES. isIP | N/A |
| isMLM | NV_NODES. isMLM | N/A |
| isSNMPSupported | NV_NODES. isSNMPSupported | N/A |

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| isTME | NV_NODES. isTME | N/A |
| isTMAGateway | NV_NODES. isTMAGateway | N/A |
| isTMAEndpoint | NV_NODES. isTMAEndpoint | N/A |
| Tivoli_Interp | NV_NODES.Tivoli _Interp | N/A |
| Interface_Name | NV_INTERFACES .Selection_Name | N/A |
| Interface_Status | NV_INTERFACES .IP_Status | N/A |
| isCard | NV_INTERFACES .isCard | N/A |
| isInterface | NV_INTERFACES .isInterface | N/A |
| isInterfaceIP | NV_INTERFACES .isIP | N/A |
| SNMPInterfaceType | NV_INTERFACES .SNMP_ifType | N/A |
| SNMPMacAddress | NV_INTERFACES .SNMP_ifPhysAddr | N/A |
| SNMPIfaceDescr | NV_INTERFACES .SNMP_ifDescr | N/A |

Reference

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| Network_Name | NV_NETWORKS .Selection_Name | N/A |
| Segment_Name | NV_SEGMENTS .Selection_Name | N/A |

## NV_INVENTORY_VIEW

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| Hardware_Id | INVENTORYDATA. HARDWARE_ SYSTEM_ID | NV_INTERFACES.IP_ Address = NETWORK_NODE. NETWORK_NODE_ ADDRESS |
| TME_OBJECT_ID | INVENTORYDATA. TME_OBJECT_ID | and |
| TME_OBJECT_ LABEL | INVENTORYDATA. TME_OBJECT_ LABEL | NV_INTERFACES.Top M_Node_ID = NV_NODES.Selection_ Name |
| Tme_IP_Address | NETWORK_NODE. NETWORK_NODE _ADDRESS | and |
| Computer_Arch | INVENTORYDATA. COMPUTER_ ARCHITECTURE | NETWORK_NODE. HARDWARE_SYSTE M_ID = INVENTORYDATA.HA RDWARE_SYSTEM_ ID |
| Computer_Model | INVENTORYDATA. COMPUTER_ MODEL | and |
| Physical_Memory | INVENTORYDATA. PHYSICAL_ MEMORY_KB | NV_INTERFACES.Top M_Network_ID = NV_NETWORKS. Selection_Name |
| Paging_Space | INVENTORYDATA. PAGING_SPACE_ KB | and |
| Computer_Scantime | INVENTORYDATA. COMPUTER_ SCANTIME | NV_INTERFACES. TopM_Segment_ID = NV_SEGMENTS. Selection_Name |

Reference

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| Processor_Model | INVENTORYDATA. PROCESSOR_ MODEL | N/A |
| Processor_Speed | INVENTORYDATA. PROCESSOR_ SPEED | N/A |
| Booted_OS_Name | INVENTORYDATA. BOOTED_OS_ NAME | N/A |
| Booted_OS_Version | INVENTORYDATA. BOOTED_OS_ VERSION | N/A |
| Node_Name | NV_NODES. Selection_Name | N/A |
| IP_Hostname | NV_NODES.IP_ Hostname | N/A |
| IP_Address | NV_INTERFACES. IP_Address | N/A |
| IP_Subnet_Mask | NV_INTERFACES. IP_Subnet_Mask | N/A |
| Node_Status | NV_NODES.IP_ Status | N/A |
| Vendor_Info | NV_NODES.vendor | N/A |
| SNMPDescription | NV_NODES.SNMP _sysDescr | N/A |

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| SNMPLocation | NV_NODES.SNMP_sysLocation | N/A |
| SNMPContact | NV_NODES.SNMP_sysContact | N/A |
| SNMPAgent | NV_NODES.SNMPAgent | N/A |
| isTivoliMn | NV_NODES.isTivoliMn | N/A |
| isTivoliPcMn | NV_NODES.isTivoliPcMn | N/A |
| isTMA | NV_NODES.isTMA | N/A |
| isPrinter | NV_NODES.isPrinter | N/A |
| isIPRouter | NV_NODES.isIPRouter | N/A |
| isComputer | NV_NODES.isComputer | N/A |
| isConnector | NV_NODES.isConnector | N/A |
| isBridge | NV_NODES.isBridge | N/A |
| isRouter | NV_NODES.isRouter | N/A |
| isPC | NV_NODES.isPC | N/A |

Reference

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
| --- | --- | --- |
| isNodeIP | NV_NODES.isIP | N/A |
| isMLM | NV_NODES.isMLM | N/A |
| isSNMPSupported | NV_NODES. isSNMPSupported | N/A |
| isTME | NV_NODES.isTME | N/A |
| isTMAGateway | NV_NODES. isTMAGateway | N/A |
| isTMAEndpoint | NV_NODES. isTMAEndpoint | N/A |
| Tivoli_Interp | NV_NODES.Tivoli_ Interp | N/A |
| Interface_Name | NV_INTERFACES. Selection_Name | N/A |
| Interface_Status | NV_INTERFACES. IP_Status | N/A |
| isCard | NV_INTERFACES. isCard | N/A |
| isInterface | NV_INTERFACES. isInterface | N/A |
| isInterfaceIP | NV_INTERFACES. isIP | N/A |
| SNMPInterfaceType | NV_INTERFACES. SNMP_ifType | N/A |

| Column Name Provided to User | Actual Table Column Name | Where Clause (rules that allow records from separate Tables to come together) |
|---|---|---|
| SNMPMacAddress | NV_INTERFACES. SNMP_ifPhysAddr | N/A |
| SNMPIfaceDescr | NV_INTERFACES. SNMP_ifDescr | N/A |
| Network_Name | NV_NETWORKS. Selection_Name | N/A |
| Segment_Name | NV_SEGMENTS. Selection_Name | N/A |

Reference

# Index

## Numerics

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