

Administrator's Guide

Citrix Network Manager for MetaFrame XPe

Version 1.0

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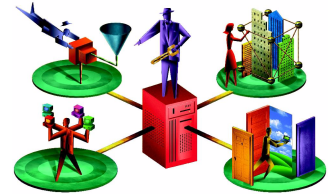
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Welcome



Welcome to Citrix Network Manager. Citrix Network Manager is the component included with Citrix MetaFrame XPe that provides systems management capabilities through third-party SNMP management consoles. Network Manager consists of an SNMP agent that is included with MetaFrame XPe and plug-ins for supported SNMP management console applications.

The Network Manager plug-ins allow administrators to remotely monitor the status of MetaFrame XPe servers and perform the following functions using a third-party SNMP management console:

- Terminate processes on MetaFrame XPe servers
- Shut down and restart MetaFrame XPe servers
- Disconnect, log off, and send a message to an active session on a MetaFrame XPe server

The Network Manager plug-ins interact with the SNMP management consoles through API calls provided by the SNMP management consoles. The Network Manager plug-ins perform the following actions automatically:

- Explore and gather information from MetaFrame servers with the SNMP agent enabled
- Update the gathered data on the network map
- Log MetaFrame server traps in the event database

This chapter describes the documentation provided with Network Manager and related Citrix products.

This chapter includes the following topics:

- Network Manager Documentation, page 6
- Citrix on the World Wide Web, page 8
- Reader Comments, page 8

Important Please be sure to read the Readme.txt file in the root directory of the Network Manager CD-ROM. This file contains important information that includes last-minute documentation updates and corrections.

Citrix provides a variety of information resources online, including a complete product documentation library, documentation updates, and technical articles on the Citrix Web site at <http://www.citrix.com>.

Network Manager Documentation

The MetaFrame XPe package includes electronic documentation and online application help for Network Manager.

- This manual, the *Network Manager Administrator's Guide*, provides conceptual information and procedures for system administrators who install, configure, and maintain Network Manager. To get the most out of the guide, review the table of contents to familiarize yourself with the topics included in the book. This manual is available in Adobe PDF format in the root directory of the Network Manager CD-ROM.
- The Readme.txt file contains last minute updates, corrections to the documentation, and a list of known problems. This file is in the root directory of the Network Manager CD-ROM.
- Online help is available for the Network Manager plug-in and can be accessed from the Help menu of your SNMP management console.

This documentation is also available on the Citrix Web site at <http://www.citrix.com/support>, under the Product Documentation tab. You can check the Product Documentation area of the Web site at any time for the latest updates to Citrix technical manuals. Any updates to this manual published after the release of this product will be posted there.

Using PDF Documentation

To use the documentation that is provided in PDF files, you need to have the Adobe Acrobat Reader program. The Reader program lets you view, search, and print the documentation files.

If you need to obtain the Reader program, you can download it for free from Adobe System's Web site (<http://www.adobe.com>). The self-extracting file includes installation instructions.

Documentation Conventions

Citrix documentation uses the following typographic conventions for menus, commands, keyboard keys, and items in the program interface:

Convention	Meaning
Boldface	Commands, names of interface items such as text boxes and option buttons, and user input.
<i>Italics</i>	Placeholders for information or parameters that you provide. For example, <i>filename</i> in a procedure means you type the actual name of a file. Italics also are used for new terms and the titles of books.
UPPERCASE	Keyboard keys, such as CTRL for the Control key and F2 for the function key that is labeled F2.
Monospace	Text displayed at a command prompt or in a text file.
%SystemRoot%	The Windows system directory, which can be WTSRV, WINNT, WINDOWS, or other name specified when Windows is installed.
{ braces }	A series of items, one of which is required in command statements. For example, { yes no } means you must type yes or no . Do not type the braces themselves.
[brackets]	Optional items in command statements. For example, [ping] means that you can type ping with the command. Do not type the brackets themselves.
(vertical bar)	A separator between items in braces or brackets in command statements. For example, { /hold /release /delete } means you type /hold or /release or /delete .
... (ellipsis)	You can repeat the previous item or items in command statements. For example, /route:devicename [,...] means you can type additional <i>devicenames</i> separated by commas.
►	Step-by-step procedural instructions

Citrix on the World Wide Web

The Citrix Web site, at <http://www.citrix.com>, offers a variety of information and services for Citrix customers and users. From the Citrix home page, you can access Citrix online Technical Support Services and other information designed to assist MetaFrame XP administrators, including the following:

- Citrix Product Documentation Library containing the latest documentation for all Citrix products (at <http://www.citrix.com/support>; select Product Documentation)
- Downloadable Citrix ICA Clients (at <http://www.citrix.com/download>)
- Program information on Citrix Preferred Support Services options
- An FTP server containing the latest service packs, hotfixes, utilities, and product literature for download
- An online Solution Knowledgebase containing an extensive collection of application notes, technical articles, troubleshooting tips, and white papers
- Interactive online Solution Forums for discussion of technical issues with other users
- Frequently Asked Questions pages with answers to common technical and troubleshooting questions
- Information about programs and courseware for Citrix training and certifications
- Contact information for Citrix headquarters, including worldwide, European, Asia Pacific, and Japan headquarters
- The Citrix Developer Network (CDN) at <http://www.citrix.com/cdn>. This new, open enrollement membership program provides access to developer tool kits, technical information, and test programs, for software and hardware vendors, system integrators, ICA licensees, and corporate IT developers who incorporate Citrix server-based computing solutions into their products.

Reader Comments

We strive to provide accurate, clear, complete, and usable documentation for Citrix products. If you have any comments, corrections, or suggestions for improving our documentation, we want to hear from you.

You can send e-mail to the documentation authors at documentation@citrix.com. Please include the product name and version number, and the title of the document in your message.

Installing Network Manager



This chapter lists system requirements and describes how to install Citrix Network Manager components. This chapter includes the following topics:

- System Requirements, page 9
- Installing the Microsoft SNMP Service, page 10
- Configuring SNMP Community Security, page 11
- Installing the Network Manager Plug-Ins, page 12
- Installing the Citrix Management Console, page 13
- Uninstalling the Network Manager Plug-Ins, page 13

System Requirements

The requirements for MetaFrame XPe servers that are to use the SNMP agent are the same as MetaFrame XPe with the addition of Microsoft SNMP Services. Microsoft SNMP Services are included with Windows but not installed by default. See “Installing the Microsoft SNMP Service” on page 10 for instructions on installing Microsoft SNMP Services.

Network Manager imposes no additional requirements above those for the supported SNMP management consoles.

Network Manager supports the following SNMP management console applications:

- Tivoli NetView 5.1.2 or later
- HP OpenView Network Node Manager 6.1 or later

Installing the Microsoft SNMP Service

Before you install an SNMP management console, you must install the Microsoft SNMP service if it is not already installed. The Microsoft SNMP Service must also be installed on the MetaFrame XPe servers running the SNMP agent. You can determine if the SNMP Service is installed by looking for it in the Services window accessible from the Control Panel.

► **To install the Microsoft SNMP Service on Windows NT 4.0**

1. From the **Start** menu, click **Settings**, then click **Control Panel**. The **Control Panel** window appears.
2. Double-click on **Network**. The **Network** dialog box appears.
3. Click the **Services** tab.
4. Click **Add**. The **Select Network Service** dialog box appears.
5. Click **SNMP Service** and then click **OK**.
6. Follow the on-screen instructions to complete the installation.
7. Re-apply any installed service packs.

► **To install the Microsoft SNMP Service on Windows 2000**

1. From the **Start** menu, click **Settings**, then click **Control Panel**. The **Control Panel** window appears.
2. Double-click on **Add/Remove Programs**. The **Add/Remove Programs** dialog box appears.
3. Click **Add/Remove Windows Components**. The **Windows Components Wizard** appears.
4. Click on **Management and Monitoring Tools** and then click **Details**. The **Management and Monitoring Tools** dialog box appears.
5. Select the **Simple Network Management Protocol** check box and click **OK**.
6. Follow the on-screen instructions to complete the installation.
7. Re-apply any installed service packs.

Configuring SNMP Community Security

If an SNMP community on the MetaFrame server is configured with Read/Write permissions and the Citrix SNMP agent is enabled, users can remotely perform potentially dangerous actions. The following Network Manager functions require Read/Write access:

- Rebooting a MetaFrame server
- Logging off a user from a MetaFrame server
- Disconnecting a user from a MetaFrame server
- Sending a message to a user
- Terminating a process

On Terminal Server systems, the default SNMP permissions are Read/Write. On Windows 2000 systems, the default SNMP permissions are Read Only. To be able to remotely perform the above actions on a Windows 2000 system using the Network Manager plug-in, you must change the SNMP community permissions to Read/Write.

Tip To prevent unauthorized users performing these actions, you can configure the SNMP service on the MetaFrame servers to accept SNMP packets only from known SNMP management console computers. If you have a firewall, the list of systems to accept packets from should contain only computers inside the firewall and the firewall should block packets coming in through the firewall that contain source IP addresses known to be inside the firewall.

You can also choose to disable these features completely by removing Read/Write permissions from all SNMP communities.

As an alternative to using Network Manager to perform possibly destructive actions, you can use the Citrix Management Console. The Citrix Management Console uses Windows NT domain-based user authentication, and is, thus, a more secure method of allowing access to these functions. The Citrix Management Console can be launched directly from Network Manager.

All SNMP community security settings are configured from the **Security** tab of the SNMP properties dialog box. Be sure the MetaFrame servers and the SNMP management console computer all have at least one community name in common. To configure the MetaFrame servers to accept packets only from the computer running the SNMP management console, add the IP name or address of that computer to the list of hosts from which to accept packets. See your Windows system documentation for specific details on configuring SNMP community security.

► **To display the SNMP security properties in Terminal Server**

1. From the **Start** menu, click **Settings**, then click **Control Panel**. The **Control Panel** window appears.
2. Double-click on **Network**. The **Network** dialog box appears.
3. Click the **Services** tab.
4. Click on **SNMP Service** to select it and then click **Properties**. The **Microsoft SNMP Properties** dialog box appears.
5. Click the **Security** tab.

► **To display the SNMP security properties in Windows 2000**

1. From the **Start** menu, click **Programs**, then **Administrative Tools**, and then **Services**. The **Services** window appears.
2. In the right pane, double click on **SNMP Service**. The **SNMP Service Properties** dialog box appears.
3. Click the **Security** tab.

Installing the Network Manager Plug-Ins

The following procedures explain how to install the Network Manager plug-ins using the Network Manager CD-ROM or a network sharepoint.

Note If you have a beta version of a Network Manager plug-in installed, you must uninstall the beta version before installing the retail version.

Note If you want to install from a network sharepoint, do not use spaces in the name when creating the sharepoint.

► **To install the Network Manager plug-ins**

1. Exit all applications.
2. Insert the Network Manager CD-ROM into the CD drive.
 - If your CD drive supports Autorun, the Network Manager splash screen appears.
 - If the splash screen does not appear or you are installing from a network sharepoint, from the **Start** menu, click **Run** and type **d:\autorun.exe** where *d* is the path to your CD-ROM drive or network sharepoint.
3. Click **Install Plug-in for NetView** or **Install Plug-in for OpenView**, depending on which SNMP management console you have installed.

Once Setup begins, a series of information pages and dialog boxes ask you to select the installation path and Start menu folder. Click **Next** to continue after you complete each entry. If you want to return to a previous page to make changes, click **Back**. If you click **Cancel**, the Setup program quits without finishing installation.

Installing the Citrix Management Console

See your Citrix MetaFrame XPe documentation for instructions on installing the Citrix Management Console from the MetaFrame XPe CD-ROM. Although the Citrix Management Console is not required on the SNMP management console computer, it is recommended because:

- You can easily launch it from Network Manager.
- It provides management functionality not found in Network Manager.
- You can disable Read/Write permissions for the SNMP community and instead use the improved domain-based security of the Citrix Management Console to prevent unauthorized users from performing potentially dangerous actions.

Uninstalling the Network Manager Plug-Ins

Uninstalling a Network Manager plug-in does not remove the MetaFrame server node from the network map in the management console. It removes the Network Management submaps and changes all MetaFrame server node icons to the default server icon.

► **To delete Citrix objects and symbols from NetView**

1. Run the NetView Console.
2. Select **Properties** from the **Edit** menu. The **Properties** dialog box appears.
3. Select the **Map** tab of the **Properties** dialog box.
4. In the **Map Application** drop-down list at the bottom of the dialog box, select **Citrix Network Manager for Tivoli NetView** and then click **Properties...** The **Citrix Network Manager for Tivoli NetView Properties** dialog box appears.
5. Click **Proceed with deleting Citrix symbols and objects from this map?**
6. Click **Verify** and then click **OK**.
7. Exit the Tivoli NetView console.

► **To delete Citrix objects and symbols from OpenView**

1. If they are not already running, start the OpenView daemons by typing **ovstart** at a command prompt.
2. Run Network Node Manager.
3. From the **Map** menu, select **Properties**. The **Map Properties** dialog box appears.
4. Click the **Applications** tab in the Map Properties dialog box.
5. Select **Citrix Network Manager for HP OpenView 6.1** from the **Configurable Applications** list.
6. Click **Configure for this Map...** The **Configuration** dialog box appears.
7. Click **Proceed with deleting Citrix symbols and objects from this map?** to change the value to **True**.
8. Click **Verify**.
9. Click **OK** to close the **Configuration** dialog box.
10. Click **OK** to close the **Map Properties** dialog box.
11. Exit Network Node Manager.

Important Do not attempt to uninstall an SNMP management console before uninstalling the Network Manager plug-in.

► **To uninstall the Network Manager Plug-In**

1. Exit any applications running on the server.
2. Choose **Start > Settings > Control Panel > Add/Remove Programs**.
3. Do either:
 - On Terminal Server Edition, select **Citrix Network Manager for HP OpenView** or **Citrix Network Manager for Tivoli NetView** and click **Add/Remove**.
 - On Windows 2000 Servers, click **Change or Remove Programs**, select **Citrix Network Manager for HP OpenView** or **Citrix Network Manager for Tivoli NetView**, and click **Change/Remove**.
4. The Network Manager Uninstall program appears. Follow the displayed instructions.

Note Uninstalling the Network Manager plug-in does not remove any icons from the network map. You may want to manually delete the Citrix Server Farms icon and the subnet icons for each MetaFrame server.

Using Network Manager



This chapter describes options and settings for Citrix Network Manager. This chapter does not include instructions for using the SNMP management console applications themselves. See your NetView or OpenView documentation for more information on using these products. See the online help for Network Manager for more details on the Network Manager submap icons.

This chapter contains the following topics:

- Descriptions of Available Traps, page 17
- Configuring Which Traps to Send, page 18
- Using the Network Manager Plug-In, page 19
- Using the MIB Browser, page 21

Descriptions of Available Traps

The following status traps can be sent from a MetaFrame server with the Citrix SNMP agent:

Trap Name	Citrix Management Console Equivalent	Trap Number	Action	Description
trapSessionLogon	Session Logon	2		Notifies the server each time a user logs on.
trapSessionLogoff	Session Logoff	1		Notifies the server each time a user logs off.
trapSessionDisc	Session Disconnect	3		Notifies the server each time someone disconnects a session.

trapSessionThreshold	Session Threshold Exceeded	4	Session Information icon changes to red	Notifies the server each time the number of sessions on a server exceeds the Session Limit.
trapSessionThreshold Normal		9	Session Information icon changes to green	The number of concurrent sessions has fallen below the warning threshold.
Trap Name	Citrix Management Console Equivalent	Trap Number	Action	Description
trapMfAgentUp		8		The Citrix SNMP agent has been started on this server.
trapLicLowThreshold	License Notification Set	5	The License Information icon changes to yellow	The number of available licenses in a license group has reached the warning threshold. The warning threshold is the numeric Set variable set in the Citrix Management Console.
trapLicLowThreshold Normal	License Notification Reset	10	The License Information icon changes to green	The number of available licenses in a license group has risen above the warning threshold (the Reset threshold set by the Reset variable in the Citrix Management Console).
trapLicDenied		7		Not used.
trapLicOut		6	The License Information icon changes to red	Out-of-license event occurred (pooled connection licenses).
trapLicOutNormal		11	The License Information icon changes to yellow	The number of available licenses in a license group is greater than the critical minimum available. (pooled connection licenses).

Configuring Which Traps to Send

Before the SNMP management consoles are able to discover MetaFrame servers, the SNMP agent on the MetaFrame servers must be enabled using the Citrix Management Console. The Citrix Management Console is also used to configure which traps are sent to the SNMP management consoles and what thresholds to use for the session and license traps. The license traps are farm-wide and are configured

from the **SNMP** tab of the **Farm Properties** dialog box. The remaining traps can be configured either on a farm-wide basis (the default) or on a per-server basis. If the **Use Farm Settings** box is checked in a server's **Properties** dialog box, the server inherits the farm settings. Deselect this option to change the SNMP trap settings for a particular server.

See the *MetaFrame XP Administrator's Guide* or the online help for the Citrix Management Console for step-by-step instructions on configuring SNMP traps.

Using the Network Manager Plug-In

Traps generated by the SNMP agents running on MetaFrame servers are collected and profiled by the SNMP management console and the Network Manager plug-in. Collected traps can be viewed using the SNMP management console's event/alarms browser. See the documentation for the Citrix Management Console for instructions on configuring which events generate SNMP traps.

You can use the Tivoli NetView **Trap Properties** dialog box or HP OpenView **Event Configuration** window to modify the description logged in the event log and configure programs to run when certain traps are received. See your NetView or OpenView documentation for more information.

Updating the Network Map

After installing the Network Manager plug-in, the SNMP management console's discovery process is able to identify servers running the Citrix SNMP agent. If the Citrix SNMP agent is found, Network Manager replaces the default node icon for the server with a MetaFrame server icon and adds the Network Manager submaps.

You can access MetaFrame status information through the submaps. The following server submaps are added by Network Manager:

- License Information
- Citrix Console
- Performance Counter
- Process Information
- Server Data
- Session Information

See the application help for the individual submap for explanations of the information displayed by each submap.

Troubleshooting

If a MetaFrame server is not appearing as a node in the IP Internet tree, verify that the Citrix SNMP agent is enabled on the MetaFrame server and that it is configured to send traps to the computer running the SNMP management console. You can also try rediscovering the server using the SNMP management console's node discovery process. If the Citrix Network Manager Information icons are not appearing in the server submap, try deleting and rediscovering the MetaFrame server.

You can manually update the status of a MetaFrame server by selecting a MetaFrame server and then selecting **Monitor | Citrix | Status Update**.

Monitoring Traps

You can monitor traps from your SNMP management console using any or all of the following methods:

- **Monitoring the MetaFrame submap icon colors** - See the table at the beginning of this chapter to determine which traps cause color changes for the different icons. These color changes are propagated to the server, the MetaFrame zone, and the MetaFrame farm icons. Looking at the colors of these icons is the quickest way to get a general overview of the health of the MetaFrame servers in your network.
- **Monitoring the event browser** - The event browser logs all traps received by the SNMP management console. You can filter this data to display only traps specific to MetaFrame.

In Tivoli NetView, you can filter the event log to include only traps for the “metaframe” enterprise.

In HP OpenView, you must manually change all the MetaFrame trap descriptions to include a key phrase and then filter the event log for events containing the key phrase in the description.

- **Using the Citrix TrapDialog monitor** - The Citrix TrapDialog monitor displays a pop-up message when a status-change trap is received. This pop-up dialog message appears only on the computer running the SNMP management console.
- **Configuring notification actions to take place when traps are received** - You can configure more complex monitoring and notification procedures such as sending an email or paging specific individuals by using the SNMP management console features. You can also customize the description saved to the event log. See the documentation for your management console for more information and refer to the table at the beginning of this chapter for details on the Citrix Network Manager traps.

► **To enable or disable the Citrix TrapDialog monitor**

From the **Monitor** menu in your SNMP management console, select **Citrix**, then **TrapDialog**, then either **Start** or **Stop**.

Note It is not possible to determine whether Citrix TrapDialog is enabled. By default, it is disabled.

Rebooting or Shutting Down a MetaFrame Server

► **To reboot or shut down a MetaFrame server using the Network Manager plug-in**

1. Select the MetaFrame server.
2. From the **Monitor** menu, select **Citrix**, and then either **Server Shutdown** or **Server Reboot**.

Note These actions can be performed only if the MetaFrame server is configured to allow Read/Write access and accepts packets from the computer on which the SNMP management console is running. See “Configuring SNMP Community Security” on page 11 for more information.

Using the MIB Browser

If your SNMP management console has a MIB browser utility, you must first load the citrix.mib and mf.mib files before you can use the MIB browser utility to query or set Network Management values. These files are located in the \mibs directory of the Network Manager CD-ROM. See the documentation for the SNMP management console for instructions on how to load these files.

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