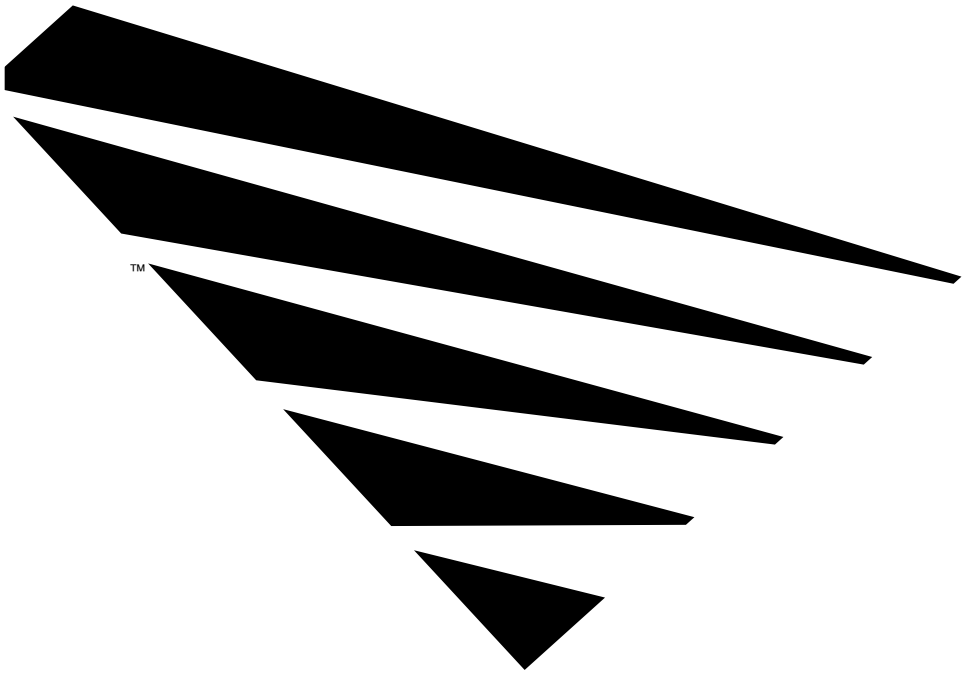

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NetWare Management Agent for NetView Administration Guide*

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B Using NetView RUNCMD Filtering

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About This Guide

This guide describes

- NetWare® Management Agent (NMA) for NetView* 1.3B
- How to install NMA for NetView 1.3B
- How to use NMA for NetView 1.3B

Who Should Read This Guide

Read this guide if you want to

- Learn about NMA for NetView and its features
- Learn about the new features in NMA for NetView 1.3B
- Install NMA for NetView 1.3B
- Configure or reconfigure NMA for NetView
- Load or unload NMA for NetView
- Remove NMA for NetView from a NetWare server

Content Overview

Chapter 1, About NMA for NetView: Describes NMA for NetView, introduces the new features in NMA for NetView 1.3B, and describes the complete set of features provided by NMA for NetView 1.3B.

Chapter 2, Installing or Upgrading NMA for NetView: Provides a procedure for setting up a NetWare server to run NMA for NetView. This chapter includes instructions for preparing the host for communications with NMA for NetView.

Chapter 3, Configuring, Loading, and Unloading NMA for NetView: Provides separate procedures for tasks you may want to perform after you complete the installation procedure in Chapter 2. This chapter includes instructions for configuring, loading, and unloading NMA for NetView.

Appendix A, Installing Code Points for NetWare: Provides the procedure for installing NetView code points for NetWare. This procedure may not be required for your installation. Be sure to read the section entitled "Do You Need to Install?" on page A-1.

Appendix B, Using NetView RUNCMD Filtering: Provides the procedure for disabling or filtering out selected NetView RUNCMDs sent from the NetView operator to the server running NMA for NetView.

Conventions

This guide uses a variety of typographical conventions, special terminology, and symbolic conventions.

Typographic Conventions

<Words in Brackets>

Bracketed words indicate names of keys that you press. For example:

Press <Enter> to display the Configuration Options menu.

Bold Monospace

When in bold, **monospace** font indicates commands that you enter at a prompt or select from a menu. For example:

```
SERVER
```

Letters and symbols that appear in bold monospace typeface must be entered exactly as shown.

[ ]

Square brackets enclose optional values. Do not enter the brackets. When an option appears in **bold monospace**, enter the option as described in the command description. For example:

```
Rights=[A][C][E][F][M][R][S][W]
```

In this example, you can enter any or all of the letters that appear between the brackets. Do not enter the brackets.

greater than symbol (**>**)

A *greater than* symbol preceding a command indicates that you must enter the command from the DOS prompt. For example:

```
> server
```

colon (**:**)

When a colon precedes a command, the colon indicates that you must enter the command from the system console prompt, which is a colon. For example:

```
:load install
```

Monospace

When not in bold, monospace type indicates messages that the system displays. For example:

```
Enter filename
```

Italics — Words appearing in *italics* represent variables that you must replace with the appropriate values. For example:

OP=*userid*

In the example above, you would type **OP=** and replace the variable *userid* with a valid NetWare user ID.

UPPERCASE — Words appearing in UPPERCASE are filenames, pathnames, or NetWare utility names. For example:

DISK1.EXE

Terminology

This guide uses the following terms to summarize actions that are performed frequently or product groups referred to frequently.

Select — Use the cursor keys to highlight the item and press <Enter>.

Enter — Type the indicated text and press <Enter>. For example:

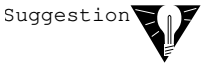
Enter **load install**.

NetWare v3.1*x* — Versions of Netware later than v3.1 and earlier than 4.0 (for example, NetWare v3.11 and NetWare v3.12).

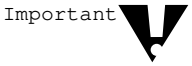
NetWare 4.*x* — NetWare 4.0 or later.

Symbolic Conventions

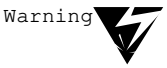
A *Note* symbol points out an item that may be of interest but is not vital to the operation of the product or to your safety.



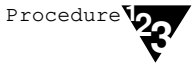
A *Suggestion* symbol denotes hints, tips, or helpful information that may be useful, but not critical.



An *Important* symbol denotes important information that you should read. It's also a visual cue to key concepts and facts.



A *Warning* symbol carries a stronger message than an Important symbol and is used to call attention to a situation in which a critical or irreversible error can be made.



A *Procedure* symbol calls attention to those portions of the manual that contain "action items," such as lists of step-by-step instructions.

Additional Reading

The publications described in this section provide additional information on products used with NMA for NetView.

- *NetWare Reference Guide for NetView Operators* (100-001242-004)

  The *NetWare Reference Guide for NetView Operators* describes the alert messages and NetWare command set provided by NMA for NetView 1.3B and NetWare for SAA* 1.3B.

- *NetWare for SAA 1.3 Rev. B Administration Guide* (100-001166-003)

  The *NetWare for SAA 1.3 Rev. B Administration Guide* describes the NetView support features in NetWare for SAA 1.3B.

- The *Btrieve® Installation and Operation* manual for your version of NetWare

- *NetView Operations Primer* (SC30-3363) from IBM

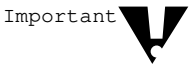
End of Chapter

chapter 1

About NMA for NetView

This chapter describes

- NetWare Management Agent (NMA) for NetView
- The new features in NMA for NetView 1.3B
- The complete NMA for NetView feature set



The NMA for NetView and NetWare for SAA products provide similar support for NetView software. Do not install NMA for NetView and NetWare for SAA in the same NetWare server.

NMA for NetView and NetWare for SAA servers are designed to support the NetView network management program from IBM*. These NetWare products support any other network management program that is 100 percent compatible with NetView. The NET/MASTER* network management program from Steriling Software is an example of a program that is designed to be compatible with NetView.

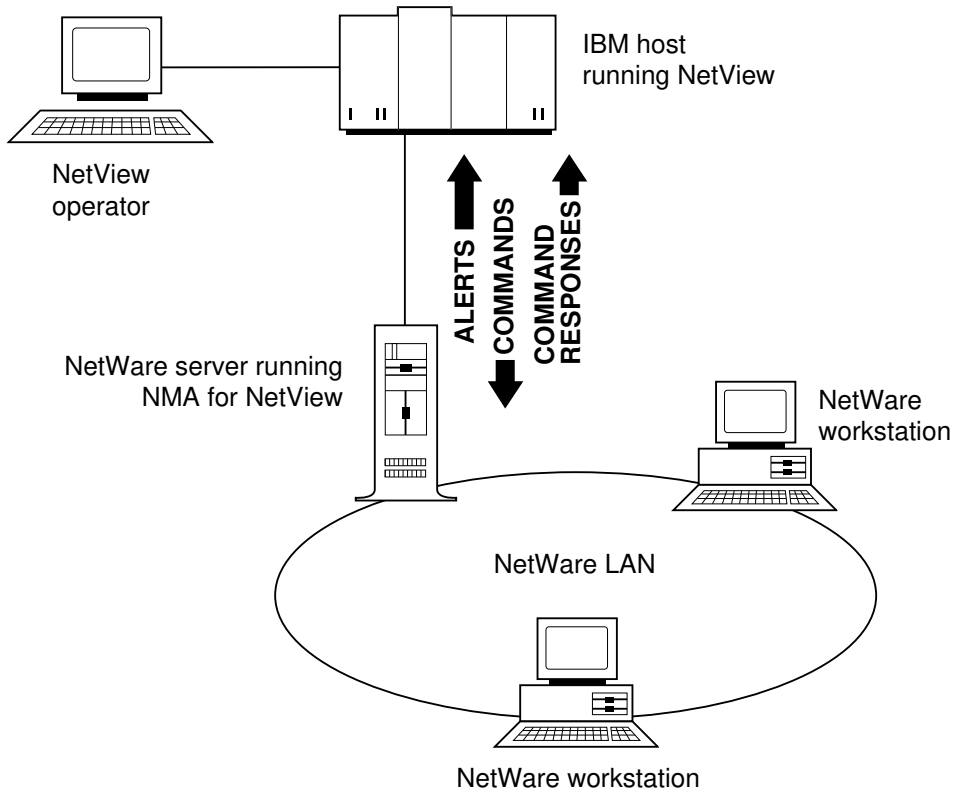
What Is NMA for NetView?

NMA for NetView is a NetWare Loadable Module™ (NLM™) product that enables NetWare v3.1*x* and 4.*x* servers to participate in NetView network management.

NetView is an IBM network management program that runs in the Virtual Machine (VM) and Multiple Virtual Storage (MVS) host environments. NetView is designed to be an enterprise-wide network management tool. IBM publishes specifications that describe how network product vendors can design products to communicate with NetView.

Figure 1-1 is a simplified illustration of how NMA for NetView communicates with NetView.

Figure 1-1
Simplified Illustration of NMA for NetView Communications



NMA for NetView runs in a NetWare v3.1*x* or 4.*x* server and communicates with the NetView program, which runs in the IBM host computer. The connection between the NetWare server and the host is described later in this chapter.

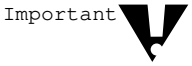
NMA for NetView exchanges three types of messages with NetView:

- Alerts
- RUNCMDs
- RUNCMD responses

Alerts are messages that are sent from NMA for NetView to NetView. NMA for NetView translates selected NetWare server error and status messages into alerts.

RUNCMDs are messages that are sent from NetView to the NMA for NetView server. NMA for NetView enables NetView to send commands that request NetWare server information or control some NetWare server features.

RUNCMD responses are messages that are sent to NetView after a command message has been processed. Command response messages contain information about the server or about the result of a server command.



The messages that travel between NMA for NetView and the NetView host relate to the operation of the NetWare v3.1*x* and 4.*x* server. NMA for NetView does not monitor, report, or control the status of the NetWare local area network (LAN) or NetWare LAN workstations. NMA for NetView does not respond to maintenance statistic requests from an IBM host.

NetView operators use a terminal, or *NetView console*, to connect to the NetView program on the host. From the terminal, the NetView operator can view alert messages, send RUNCMD messages, and view RUNCMD response messages. For more information on NetView operation, see the *NetView Operation Primer* (SC30-3363) from IBM.

Third-party 3270 terminal emulation products, such as the NetWare 3270 LAN Workstation™ by Attachmate*, enable NetWare users to connect to NetView and other host programs from a NetWare LAN workstation. These products allow NetWare LAN workstations to emulate IBM terminals. NMA for NetView enables NetView communications between LAN workstations and the host.

What Is New in Version 1.3B

NMA for NetView 1.3B provides the following new features:

- Support for NetWare 4.0-or-later servers and support for additional RUNCMDs that apply to the NetWare 4.0-or-later server
- Security enabling and disabling
- RUNCMD and alert enabling and disabling
- Alert flow control in servers with direct host connections

These features are described with the complete set of NMA for NetView features in the next section.

NMA for NetView Features

The principal features of NMA for NetView are

- Alert generation (see page 1-5)
- RUNCMD processing (see page 1-6)
- RUNCMD security (see page 1-9)
- RUNCMD filtering (see page 1-10)
- Host communication options
  - Direct host communications (see page 1-11)
  - Collection point communications (see page 1-12)
- Alert flow control (see page 1-14)
- Support for the Open NetView interface (see page 1-14)

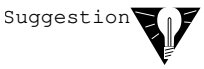
Alert Generation

NMA for NetView generates alerts for the following server processes:

- Token ring adapters and drivers
- Logical link control (LLC) protocol components of token ring drivers
- The NetWare operating system and component services

The alerts for token ring adapters, drivers, and protocol components apply to the token ring components in the NMA for NetView server. NMA for NetView does not generate alerts for similar conditions in NetWare LAN workstations.

These NetView alert messages are listed in the *NetWare Reference Guide for NetView Operators*. Each message description in the *NetWare Reference Guide for NetView Operators* includes the NetView alert, a description of the alert cause, a suggested action, and the NetWare message (if one exists) that would appear on the server console.



If the NetView operator contacts you for help with an alert message, ask the operator to look it up in the *NetWare Reference Guide for NetView Operators*. If the operator still needs help, ask the operator to tell you the NetWare message (from the reference guide) that corresponds to the alert message. (NetView messages use a format that is different from NetWare messages.) NetWare messages are described in the *System Messages* manual for your version of NetWare.

RUNCMD Processing

If the RUNCMD processing feature is enabled, NMA for NetView processes two types of RUNCMDs:

- Server query commands
- Server control commands

NMA for NetView allows you to control command processing with the following features:

- RUNCMD security
- RUNCMD filtering

This section describes the actions these commands produce and the control features you can use. For detailed information on each command and its syntax, see the *NetWare Reference Guide for NetView Operators*.

Server Query RUNCMDs

Server query RUNCMDs request information about server resources. These commands allow the NetView operator to query for

- Server information such as the number of volumes on a server, the server's login status, and the server's internetwork address
- Volume information such as the space allowed for a user, and the space used by a user
- Directory information such as the space allowed for a directory, and a user's rights to the directory
- File information
- A user's usage of a volume and the remaining space allowed to the user
- The version numbers of the Sequenced Packet Exchange (SPX) and Internetwork Packet Exchange™ (IPX™) protocols
- The configuration of the SPX protocol
- The status of the Transaction Tracking System™ (TTS)
- Information on most (not all) server settings that can be set with NetWare SET command parameters

Server Control RUNCMDs

Server control commands allow a NetView operator to

- Enable or disable server login, shut down a server, and broadcast a message to server users
- Set the server date and time
- Set the volume space allowed to a user and remove a user from a volume
- Set the space allowed to a directory; add or remove a directory trustee; and set the owner, creation date, and creation time for a directory
- Add and remove file trustees and set the file owner, the creation date and time, the update date and time, the access date, and the archive date and time
- Enable or disable the Transaction Tracking System (TTS)
- Load and unload an NLM
- Set most (not all) server control parameters that can also be set at the server console with the NetWare SET command

RUNCMD Security

NMA for NetView provides an optional RUNCMD security feature for controlling NetView command processing. If security is enabled NMA for NetView checks each NetView command for a valid NetWare user ID with the appropriate status (see Table 1-1).

Table 1-1
NetView RUNCMD Processing

Server Command Type	NetWare User ID Status Required for Processing
Query	File server console operator status or supervisor rights on target NetWare v3.1*x* servers.
	Console operator status or security equivalence to the file server object on target NetWare 4.*x* servers.
Control	Supervisor rights on target NetWare v3.1*x* servers.
	Security equivalence to the file server object on target NetWare 4.*x* servers.

When a command message does not include an acceptable NetWare user ID, NetWare rejects the command and sends the following message to NetWare:

```
Invalid Operator name
```

When this message appears on the NetView console, the *name* variable displays the user ID that was rejected.

When RUNCMD security is enabled, the SUPERVISOR user ID is not an acceptable user ID for issuing RUNCMDs. As a result, NMA for NetView rejects commands issued by the SUPERVISOR user ID.

RUNCMD Filtering

The RUNCMD filtering feature allows you to disable NetWare processing of individual RUNCMDs that may be sent by NetView operators. You can disable any number of commands by listing them in a file that NMA for NetView reads when loading.

When a NetView operator sends a command that has been disabled by RUNCMD filtering, NMA for NetView returns the following message to NetView:

```
Cannot access this NetView Runcmd
```

For more information, see Appendix B, "Using NetView RUNCMD Filtering."

Host Communications Options

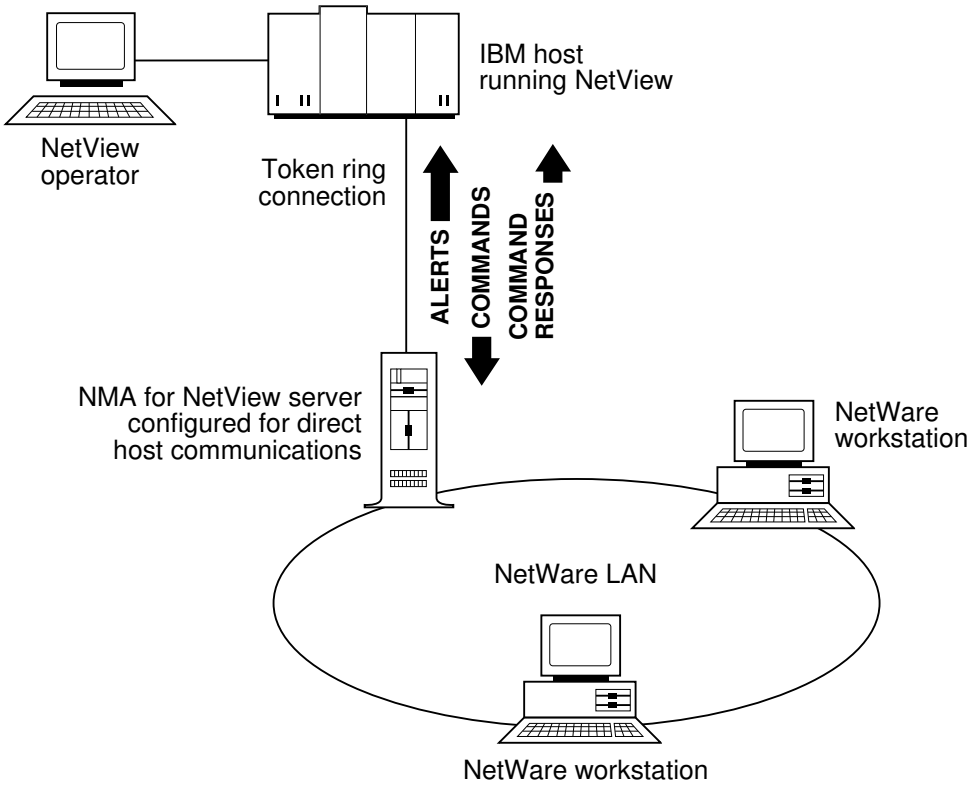
NMA for NetView provides two options for communicating with the host computer:

- Direct host communications over a token ring LAN
- Collection point communications via a NetWare for SAA server

Direct Host Communications

Figure 1-2 illustrates an example of a network topology that supports the direct host communications option.

Figure 1-2
Direct Host Communications



When using the direct host communications option, you must connect to the host through a token ring LAN.

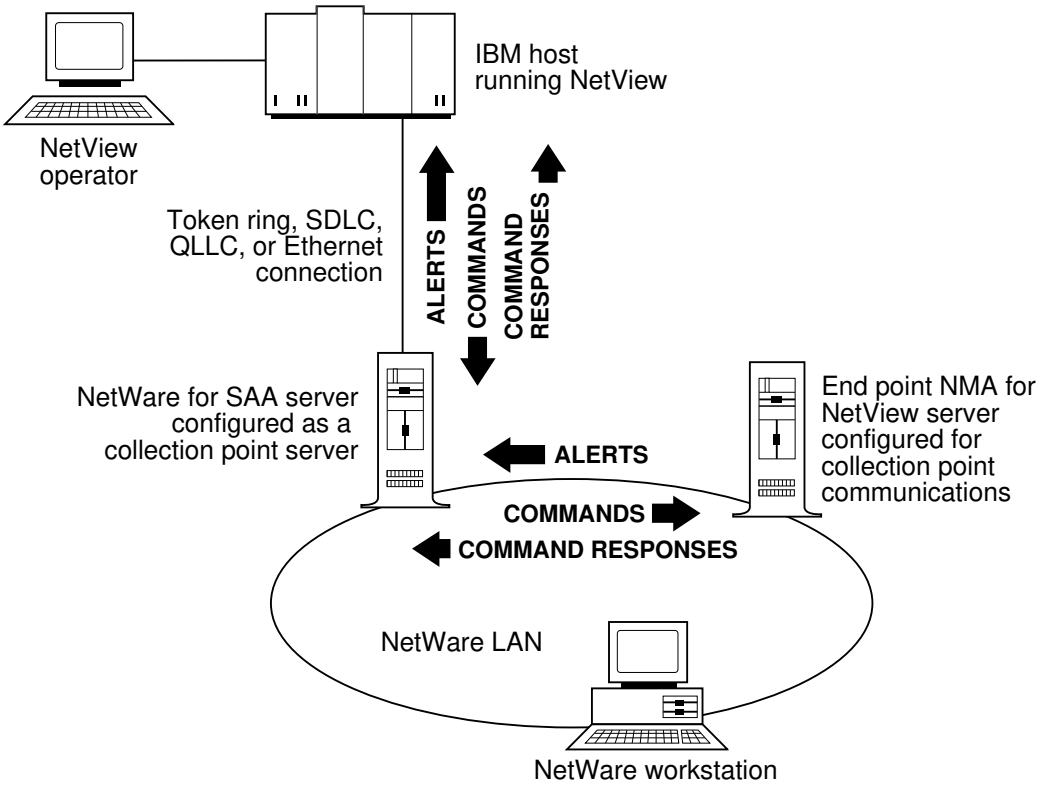
Collection Point Communications

Figure 1-3 illustrates an example of a network topology that supports the collection point communications option.

Note

The NetWare for SAA collection point server supports a direct token ring, Synchronous Data Link Control (SDLC), Qualified Logical Link Control (QLLC), or Ethernet connection to the host.

Figure 1-3
Collection Point Communications



When using the collection point communications option, NMA for NetView indirectly connects to the host computer through a NetWare for SAA server. In this system configuration, the NetWare for SAA server is called a collection point server.

When NMA for NetView is ready to send an alert, it sends the alert over the NetWare LAN to the collection point server. The collection point server forwards the alert to NetView.

When NetView is ready to send a RUNCMD to an NMA for NetView server, it sends the command to the collection point server. The collection point server forwards the command over the NetWare LAN to the NMA for NetView server. RUNCMD response messages from NMA for NetView follow the same communications path as do alert messages.

Advantages of Collection Point Communications

The collection point server option on the NetWare for SAA server and the collection point communications option on any downstream NMA for NetView server can reduce the cost of NetView management in NetWare LANs with multiple servers. If your NetWare LAN does not use token ring cabling, for example, the collection point server option can eliminate the cost of a token ring adapter for each NMA for NetView server.

The collection point server option also reduces the number of host connections required by NetWare servers. The host must allocate a physical unit (PU) for each NMA for NetView or NetWare for SAA server that is configured for direct host communications. NetView messages flow over a session between the PU and the system services control point (SSCP) host component. Downstream NetWare for SAA or NMA for NetView servers that are configured for collection point communications use the SSCP-PU session allocated to the collection point server; they do not require an additional PU assignment.

Alert Flow Control

You can insert parameters into the NVCMDS.DB file to configure NMA for NetView to monitor and control the flow of NetView alerts to the NetView console. If the rate exceeds a high-water mark over a given time interval, alerts are discarded until the rate slows to the low-water mark. You can define the high- and low-water marks and the time interval in the NVCMDS.DB file.

See “Configuring Alert Flow Control” on page 3-17 for more information.

Support for the Open NetView Interface

NMA for NetView can provide a connection between NetView and other applications that conform to the NetWare Open NetView interface. When an application uses the Open NetView interface, a server running NMA for NetView can

- Receive alerts from the application and forward them to NetView
- Receive RUNCMDs from NetView and forward them to the application

For more information on the NetView support provided by an application, refer to the documentation supplied with the application.

End of Chapter

chapter 2

Installing or Upgrading NMA for NetView

This chapter describes how to

- Install or upgrade NMA for NetView on a NetWare v3.1*x* or 4.*x* server
- Prepare the host for communications with an NMA for NetView server

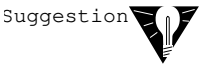
Important

The NMA for NetView and NetWare for SAA products provide similar support for NetView software. Do not install both NMA for NetView and NetWare for SAA in the same server.

Installation and upgrade of NMA for NetView consists of the following tasks:

- Choose a connection topology (see page 2-2)
- Set up the required server hardware and software (see page 2-7)
  - Download the compressed NMA for NetView files from the NetWire® information and software service (See page 2-9)
  - If you want to install from installation diskettes, decompress these files to installation diskettes (See page 2-11)
  - If you prefer to install NMA for NetView from a network or hard drive, copy your installation files to installation directories (see page 2-13)
  - Prepare the NetWare v3.1*x* or 4.*x* server (see page 2-14)
- Install or upgrade the NMA for NetView software (see page 2-22)
- Prepare the host for NMA for NetView (see page 2-25)
- Configure NMA for NetView (see page 3-3)

For instructions on completing a task, turn to the page listed after it.



Give the *NetWare Reference Guide for NetView Operators* to your NetView operator. The information in the reference guide is designed to help the NetView operator manage NetWare servers.

Choosing a Connection Topology

Before you set up the NMA for NetView server, you must choose the host communications options you will use. The host communications options are

- Direct host communications
- Collections point server communications

The host communications options are described beginning on page 1-10.

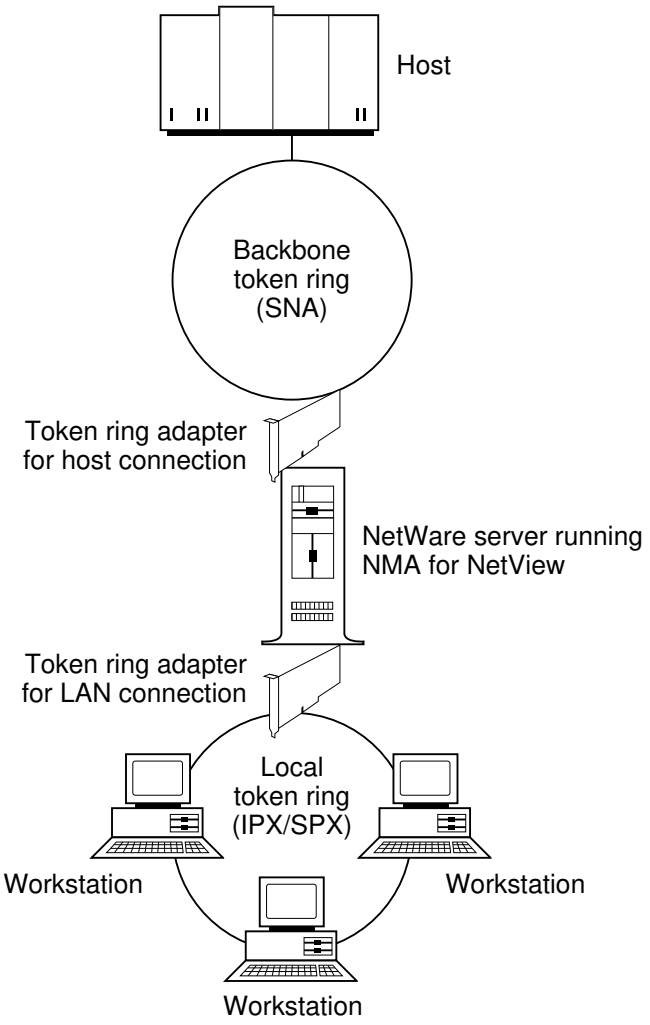
After you choose the host communications option, you must choose the topology for your connection. The topology you choose determines the hardware and software you need to install.

There are many ways to assemble a NetWare network for NetView management. This section describes some sample topologies that support the NMA for NetView host communications options.

Topologies That Support Direct Host Communications

Figure 2-1 illustrates an example of a connection topology that supports an NMA for NetView server configured for direct host communications.

Figure 2-1
Topology Example 1, Direct Host Communications



In this topology, the NMA for NetView server communicates directly with the host's communications equipment over a backbone token ring LAN using Systems Network Architecture (SNA). The workstation LAN shown in Figure 2-1 is a token ring LAN, but it does not have to be. For example, the workstation LAN could be an Ethernet LAN.

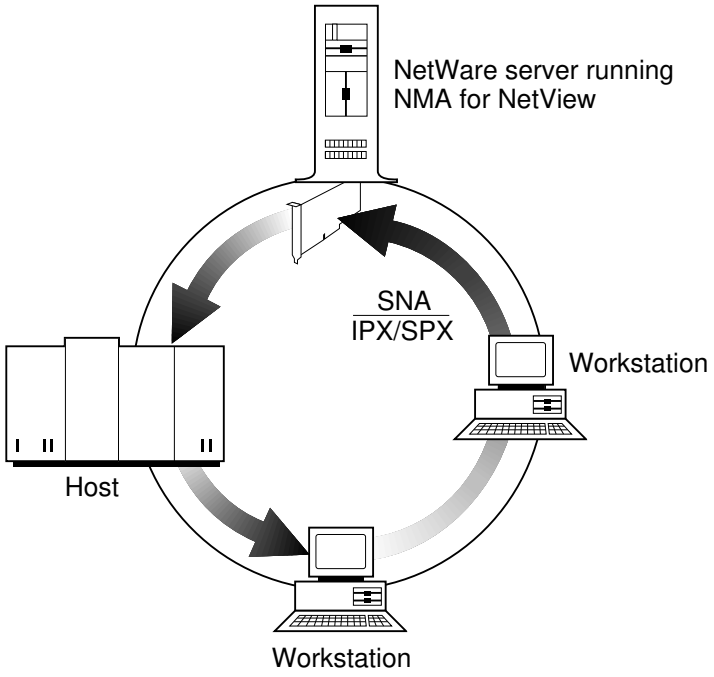
When using the topology in Figure 2-1, the NMA for NetView server requires

- An IBM 16/4 or 16/4/A Token Ring adapter for communications with the host LAN
- Cabling from the token ring adapter to the host LAN
- A network adapter for the workstation LAN
- Cabling from the NMA for NetView server to the workstation LAN

Each cabling connection should provide a path (via cables, bridges, routers, and gateways) to the respective communications target, either the host LAN or the NetWare LAN.

Figure 2-2 illustrates another example of a topology that supports direct host communications.

Figure 2-2
Topology Example 2, Direct Host Communications



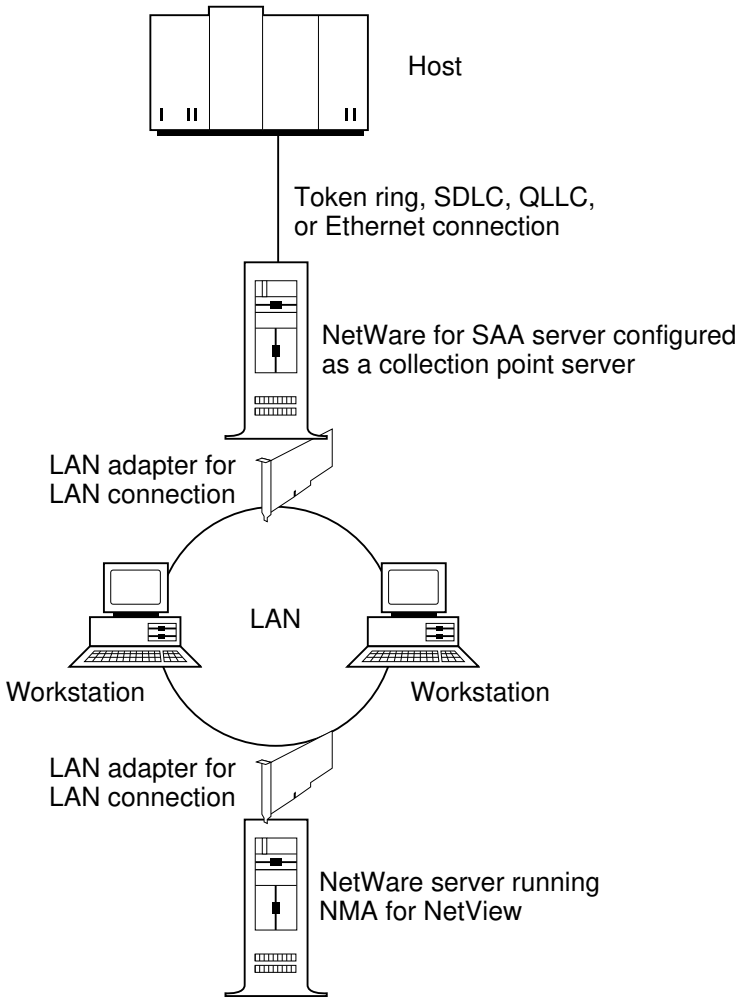
In this example, the NMA for NetView server connects to a single token ring network through one adapter. The NMA for NetView server uses the same network to communicate with the host and the NetWare workstations.

When using the topology in Figure 2-2, NMA for NetView requires an IBM 16/4 or 16/4/A Token Ring adapter and cabling from the NMA for NetView server to the host LAN. The cabling connection should provide a path (via cables, bridges, routers, and gateways) to the host LAN and all NetWare workstations.

Topology That Supports Collection Point Communications

Figure 2-3 illustrates a topology that supports an NMA for NetView server configured for collection point server communications.

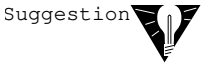
Figure 2-3
Sample Collection Point Server Topology



The collection point server is a NetWare v3.1*x* or 4.*x* server running NetWare for SAA. The NetWare for SAA server must be configured as a collection point server, and the NMA for NetView server must be configured to support NetView collection point communications. (The collection point server requirements are described in the *NetWare for SAA 1.3 Rev. B Administration Guide.)*

In this example, the NMA for NetView server connects to a single network through one network adapter. The NMA for NetView server uses the same adapter and network to communicate with the collection point server and the NetWare workstations.

This topology requires one network adapter and one network connection. The network connection should provide paths (via cables, bridges, routers, and gateways) to the collection point server and the NetWare workstations.



If you are adding NMA for NetView to an operating NetWare server and you plan to use a collection point server topology, you can use the server's existing network adapter—you do not need to install an additional adapter. As is required for a new server in this topology, the network connection must provide a path to the collection point server.

Setting Up the Required Server Hardware and Software

NMA for NetView requires certain hardware and software.

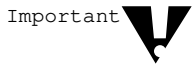
Required Hardware

NMA for NetView requires the following hardware:

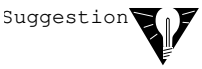
- A personal computer (PC) that uses an 80386* or 80486* microprocessor.
- One or more network adapters. (See "Choosing a Connection Topology" on page 2-2.)
- Cabling between all network adapters and the appropriate network. (See "Choosing a Connection Topology" on page 2-2.)

- Sufficient random access memory (RAM) to support your version of NetWare and NMA for NetView.
  - For NetWare v3.1*x* a minimum 6 MB of RAM is required: 2 MB for NMA for NetView and a minimum of 4 MB for NetWare v3.1*x*.
  - For NetWare 4.*x* a minimum 10 MB of RAM is required: 2 MB for NMA for NetView and a minimum 8 MB for NetWare 4.*x*.

Refer to the manuals for each hardware product for installation instructions.



Record the option settings of all jumpers and switches on each network adapter. If the board has a network address or serial number, record these items also. When using two or more adapters for the same type of cabling system, be sure to note the adapter connected to each network.



If you are adding a network adapter to an operating server, you must bring down the server and turn off the power. To minimize the interruption to file server users, consider waiting until the file server is idle or is scheduled for routine maintenance.

Required Software

NMA for NetView requires the following software:

- NMA for NetView 1.3B software.
- NetWare v3.1*x* or NetWare 4.*x*, which includes:
  - CLIB (CLIB.NLM) to support the library of C functions.
  - The Btrieve v6.10-or-later product (BTRIEVE.NLM). This product manages the database that holds your NMA for NetView configuration parameters.

If Btrieve v6.10-or-later is absent from your server, or if you have an earlier version installed, NMA for NetView automatically installs the correct version during the installation procedure.

- Network drivers to support each installed network adapter.

Refer to the manuals for each software product for installation instructions.

Downloading NMA for NetView from NetWire

The NMA for NetView 1.3B software and documentation is distributed as compressed downloadable files through *NetWire*, a Novell online information and software delivery service on the CompuServe* information service.

Subscribers to NetWire can obtain NMA for NetView 1.3B through this service. This section describes how to obtain the software and the manuals through NetWire.

NetWire subscribers can locate NMA for NetView software updates under Novell Files forum (NovFiles) of NetWire. The NetWire package for NMA for NetView v1.3B consists of the files listed in Table 2-1.

Table 2-1
NMA for NetView Files on NetWire

File	Function
NMANET.TXT	Describes the contents of the NetWire package for NMA for NetView. This file also provides instructions for printing the PostScript* and ASCII files provided with NMA for NetView. This is a text file that you can read online.
DISK1.EXE	Contains the compressed NMA for NetView files for installation diskette 1. Download this compressed file and use it to create *NMA for NetView 1.3B, Disk 1*, as described in the next section.
DISK2.EXE	Contains the compressed files for the *NMA for NetView 1.3B, Disk 2* installation diskette.
DISK3.EXE	Contains the compressed files for the *NMA for NetView 1.3B, Disk 3* installation diskette.
DISK4.EXE	Contains the compressed files for the *NMA for NetView 1.3B, Disk 4* installation diskette.
PSGUID.EXE	Contains the compressed PostScript version of this guide The PostScript version is a complete guide with all illustrations. To print this guide, you must have a PostScript printer.
ASGUID.EXE	Contains the compressed ASCII version of this guide. The ASCII version does not contain figures. Novell recommends that you use a monospaced font to view or print the expanded version of this file. Proportional-spaced fonts change the appearance of this file and may make the guide difficult to read.

Table 2-1 ***continued***

NMA for NetView Files on NetWire

File	Function
PSREF.EXE	Contains the compressed PostScript version of the *NetWare Reference Guide for NetView Operators*. The PostScript version is a complete guide with all illustrations. To print this guide, you must have a PostScript printer.
ASREF.EXE	Contains the compressed ASCII version of the *NetWare Reference Guide for NetView Operators*. The ASCII version does not contain figures. Novell recommends that you use a monospaced font to view or print the expanded version of this file. Proportional-spaced fonts change the appearance of this file and may make the guide difficult to read.

Before installing NMA for NetView, you must download the files DISK1.EXE, DISK2.EXE, DISK3.EXE, and DISK4.EXE. Before decompressing these files, read the information in "Preparing Installation Diskettes" on page 2-11, or "Preparing NMA for NetView Installation Directories (Optional)" on page 2-13.

For instructions on downloading files, see your NetWire documentation. Instructions for printing the administration and reference guide files appear in the NMANET.TXT file. For the latest information regarding changes to these procedures, look for announcements on NetWire.

Suggestion

Consider downloading, decompressing, and printing a version of the *NetWare Reference Guide for NetView Operators*. Then give the reference guide to your NetView operator. The information in the reference guide is designed to help the NetView operator manage NetWare servers.

Preparing Installation Diskettes

After downloading the NMA for NetView software from NetWire, prepare the following diskettes before installing NMA for NetView:

- *NMA for NetView 1.3B, Disk 1*
- *NMA for NetView 1.3B, Disk 2*
- *NMA for NetView 1.3B, Disk 3*
- *NMA for NetView 1.3B, Disk 4*

Important 

If you prefer to install NMA for NetView from a local hard disk or network drive, skip this section and follow the procedure described in "Preparing NMA for NetView Installation Directories (Optional)" on page 2-13.

Important 

If you already have a copy of the software and manuals, skip this section. Go to either "Preparing NMA for NetView Installation Directories (Optional)" on page 2-13 or "Preparing the NetWare Server" on page 2-14.

Procedure 

1. **If you have not already downloaded the software files, download the following files to your hard disk.**
   - DISK1.EXE
   - DISK2.EXE
   - DISK3.EXE
   - DISK4.EXE
2. **Format four diskettes.**

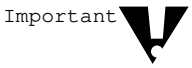
   You can use 3.5-inch or 5.25-inch high-density diskettes.
3. **Label the diskettes as follows:**
   - *NMA for NetView 1.3B, Disk 1*
   - *NMA for NetView 1.3B, Disk 2*
   - *NMA for NetView 1.3B, Disk* 3
   - *NMA for NetView 1.3B, Disk 4*

4. **Decompress the DISK1.EXE file onto the diskette labeled *NMA for NetView 1.3B, Disk 1*.**

   To decompress DISK1.EXE, insert the formatted *Disk 1* diskette in a floppy disk drive and enter a command similar to the following:

   ```
   >disk1 -d A:
   ```

   In this example, **DISK1** is the name of the self-decompressing file, **-d** is the parameter that ensures all files and subdirectories are decompressed onto the target diskette, and **A:** is the designation of the disk drive where the *Disk 1* diskette was placed.



   Be sure to include the **-d** parameter as in the example above. The **-d** parameter ensures that all files and subdirectories in the *.EXE file are decompressed onto the target diskette.

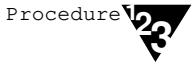
5. **Decompress the DISK2.EXE file onto the diskette labeled *NMA for NetView 1.3B, Disk 2*. Include the -d parameter as shown in in the example in Step 4.**

6. **Repeat the process for DISK3.EXE, and DISK4.EXE. Include the -d parameter as shown in the example in Step 4.**

   You will use these diskettes to carry out NMA for NetView installation described in "Installing or Upgrading the NMA for NetView Software," on page 2-22.

Preparing NMA for NetView Installation Directories (Optional)

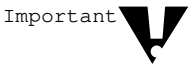
You have the option of creating installation directories in your server's hard disk or on a network drive. Installing or upgrading NMA for NetView from a network or hard disk directory is faster than installing from the floppy installation diskettes.



1. **In the DOS partition of your server's local hard disk, or on a network drive, use the Make Directory command to create a directory for each installation disk name.**

   Enter

   ```
   >md disk1
   >md disk2
   >md disk3
   >md disk4
   ```



You *must* name the installation directories DISK1, DISK2, DISK3, and DISK4.

2. **Download the following compressed files:**

   DISK1.EXE

   DISK2.EXE

   DISK3.EXE

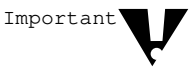
   DISK4.EXE

3. **Decompress the DISK1.EXE file onto the DISK1 directory.**

   To decompress DISK1.EXE enter a command similar to the following:

   ```
   >disk1 -d c:\disk1
   ```

   In the example above, **`DISK1`** is the name of the self-decompressing file, **`-d`** is the parameter that ensures all files and subdirectories are decompressed, and **`C:\DISK1`** is the target directory.



Be sure to include the **`-d`** parameter in the command line as in the example above. The **`-d`** parameter ensures that all files and subdirectories in the *.EXE file are decompressed onto the target directory.

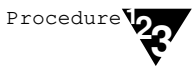
4. **Repeat the process for DISK2.EXE, DISK3.EXE, and DISK4.EXE.**

Later, when you run the INSTALL program described in "Installing or Upgrading the NMA for NetView Software," you will specify the installation directories as the source for the installation files.

Preparing the NetWare Server

Because all other software components must be loaded before you can run NMA for NetView, Novell recommends that you automate their loading by inserting the appropriate statements in your server's AUTOEXEC.NCF file.

Prepare the NetWare v3.1*x* or 4.*x* server for the installation and operation of NMA for NetView as follows:



1. **If you have not already done so, install NetWare.**

   For instructions on installing and starting NetWare, refer to *NetWare Version 3.11 Installation, NetWare 3.12 Installation* and *Upgrade*, or the NetWare 4.*x* manual *Installation and Upgrade*.

2. **Start the server.**

   For instructions on downing or restarting NetWare, see the DOWN and SERVER command descriptions in *NetWare Version 3.11 System Administration*, in *NetWare 3.12 System Administration*, or in the NetWare 4.*x* manual *Supervising the Network*.

3. **Start the NetWare INSTALL utility and select the option to edit the AUTOEXEC.NCF file.**

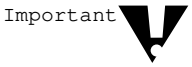
   For instructions on editing the AUTOEXEC.NCF file, see the instructions on the INSTALL utility in *NetWare Version 3.11 System Administration*, in *NetWare 3.12 System Administration*, or in the NetWare 4.*x* manual *Supervising the Network*.

4. **If you are using NetWare 4.0 or later, edit the AUTOEXEC.NCF file to enable bindery emulation.**

   Insert the following line:

   ```
   set bindery context=[ou=org_unit.]
     O=organization
   ```

   For more information on setting the bindery context, see "Enabling Bindery Emulation" on page 2-16.



Insert this line only if you are using NetWare 4.0 or later!

5. **Edit the AUTOEXEC.NCF file to load the CLIB.NLM and load and configure Btrieve.**

   Insert the following lines:

   ```
   load clib
   load btrieve -P=4096 -F=20 -H=60 -L=20 -C -U=1
   ```

   For more information on Btrieve and its parameters, see "Loading and Configuring Btrieve" on page 2-17.

6. **Edit the AUTOEXEC.NCF file to load and configure the communication protocol NLMs.**

   - If setting up a server for *direct host communications*, insert a line similar to the following to load the token ring adapter:

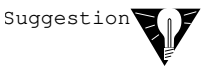
     ```
     load token port=a20 int=2 node=12345678
       name=logical_adapter_name
     ```

     For more information, see "Loading for Direct Host Communications" on page 2-18.

   - If setting up a server for *collection point communications*, insert lines similar to the following to load and bind the server's LAN adapter:

     ```
     load lan_driver
     bind ipx to lan_driver
     ```

     For more information, see "Loading and Binding for Collection Point Server Communications" on page 2-19.



See "AUTOEXEC.NCF Examples" on page 2-20 for examples of AUTOEXEC.NCF edits that support NMA for NetView.

7. **(Optional) If you want to, edit the AUTOEXEC.NCF file to load NMA for NetView automatically when you start the server.**

   Insert the following line in a location *after* the command lines described in Steps 4, 5, and 6.

   ```
   load NMANV
   ```

8. **Restart the server.**

   After completing the above edits, but before installing NMA for NetView, restart the server with the settings you specified in this procedure. Then see “Preparing the Host ” on page 2-25.

The rest of this section provides additional information on the steps to prepare the server.

Enabling Bindery Emulation

If you are running NetWare 4.0 or later, you must make sure bindery emulation is enabled for the server on which you have NMA for NetView installed. Enter the following command or make sure it exists in the server’s AUTOEXEC.NCF file:

```
set bindery context=[ou=org_unit.]
  O=organization
```

Replace *org_unit* with the organizational unit (if any) to which this server is assigned in NetWare Directory Services™. You can specify several levels of organizational units.

Replace *organization* with whatever organization name has been assigned in NetWare Directory Services.

The following example sets the bindery context for a server in the SNAGROUP container object.

```
set bindery context=ou=snagroup.
  ou=sunnyvale.o=megabrite
```

For more information on setting up bindery emulation on NetWare 4.*x* servers, see the NetWare 4.*x* manual *Supervising the Network*.

Loading and Configuring Btrieve

You must edit the AUTOEXEC.NCF file to load and configure Btrieve before you can install or operate NMA for NetView. NetWare Btrieve is a database management system that manages your NMA for NetView configuration parameters.

First, insert the command to load the CLIB NLM. Btrieve requires this NLM to be loaded.

Next, enter the command to load Btrieve along with required configuration parameters.

Table 2-2 lists the Btrieve configuration parameters and the settings that NMA for NetView requires.

Table 2-2
Btrieve Configuration Settings for NMA for NetView

Btrieve Parameter	LOAD Command Line Option	Suggested Value
Number of open files	-F	20
Number of handles	-H	60
Number of locks	-L	20
Number of transactions	-T	
Number of files per transaction	-N	
Largest compressed record size	-U	1
Largest record size	-D	
Largest page size	-P	4096
Number of sessions	-S	
Create files as transactional	-I	
Logging of selected files	-A	

The following two commands entered in the AUTOEXEC.NCF file support, load, and configure Btrieve to support NMA for NetView:

```
load clib
load btrieve -P=4096 -F=20 -H=60 -L=20 -C -U=1
```

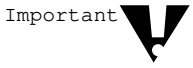
Loading and Binding the LAN Adapter

If you plan to configure NMA for NetView for direct host communications, edit AUTOEXEC.NCF to load an adapter driver for the adapter through which you communicate with the host.

If you plan to configure NMA for NetView for collection point communications, edit AUTOEXEC.NCF to load the LAN adapter driver and bind the driver to a communication protocol.

Loading for Direct Host Communications

When NMA for NetView is configured for direct host communications, you must use a token ring adapter and adapter driver for host communications. Because NMA for NetView uses its own SNA protocol stack to communicate with the host, you do not have to bind the adapter driver to a protocol.



If you plan to use the same adapter for host and workstation communications, you must bind the adapter driver to a communication protocol.

The TOKEN.LAN adapter driver is supplied with NetWare. To load and configure the TOKEN.LAN adapter driver, enter a command in your AUTOEXEC.NCF file that is similar to the following:

```
load token port=a20 int=2 node=12345678
  name=logical_adapter_name
```

Set the adapter configuration parameters as follows:

- **PORT**. Set the port parameter to A20 if it is the primary adapter; use A24 for the alternate adapter. (Refer to the manual that came with the token ring adapter for information on adapter switch settings.)
- **INT.** Enter the interrupt number used by the token ring adapter. If you do not know what interrupt the adapter uses, refer to the manual for the adapter.

- **NODE.** *Node* refers to the address of the server's token ring adapter that communicates with the host. Enter the last eight digits of the adapter's locally administered address, which is defined by the LAN or system administrator.

- **NAME.** This parameter specifies the name for the token ring LAN adapter. The logical name can be up to 16 alphanumeric and/or special characters. You will use this name later to configure the Logical Adapter Name field in the NVCONFIG program.

Loading and Binding for Collection Point Server Communications

When NMA for NetView is configured for collection point server communications, you must load a LAN adapter driver and bind it to a communication protocol. The type of adapter and communication protocol you use depends on the network through which you will connect to the collection point server.

The following command list is an example of the commands required to load an NE2000™ adapter driver and bind it to IPX:

```
load ne2000
bind ipx to ne2000
```

For information on binding a LAN adapter driver to IPX, see *NetWare Version 3.11 Installation*, *NetWare 3.12 Installation and Upgrade*, or the NetWare 4.*x* manual *Installation and Upgrade*.

If you are installing NMA for NetView onto a NetWare v3.11 server, the INSTALL program automatically upgrades your LAN adapter drivers if it detects that your current drivers are too old to support NMA for NetView.

AUTOEXEC.NCF Examples

This section contains examples of commands entered in AUTOEXEC.NCF files to prepare the NetWare server to support NMA for NetView.

Example for Direct Host Communications

The following command list is an example of the commands required to prepare a NetWare server for direct communications between NMA for NetView and the host:

```
bindery context=ou=hostsrv.ou=legal.
  o=megabrite
load clib
load btrieve -P=4096 -F=20 -H=60 -L=20 -C -U=1
load token port=a20 int=2 node=12345678
  name=logical_adapter_name
```

When configured for direct host communications, NMA for NetView uses its own Systems Network Architecture (SNA) protocol stack to communicate with the host. No additional communication protocol NLMs are required for host communications.

The LOAD TOKEN command loads the token ring driver for the LAN adapter. The **NAME=***logical_adapter_name* parameter specifies the name for the token ring LAN adapter. The procedure for loading for direct host communications is described on page 2-18.

The NetWare server requires additional communication protocol NLMs for workstation communications. This section describes only the requirements for NMA for NetView.

Example for Collection Point Communications

The following command list is an example of the commands required to prepare a NetWare server for communications with a collection point server:

```
bindery context=ou=hostsrv.ou=legal.
  o=megabrite
load clib
load btrieve -P=4096 -F=20 -H=60 -L=20 -C -U=1
load lan_driver
bind protocol to lan_driver
```

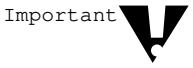
When configured for collection point communications, NMA for NetView uses an SPX connection to communicate with the collection point server. The communications path may be direct, or it may require intermediate communications devices such as bridges or routers.

The LOAD *lan_driver* and BIND commands load the driver for the LAN adapter and bind it to the communication protocol. The procedure to load and bind collection point communications is described on page 2-19.

Installing or Upgrading the NMA for NetView Software

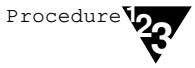
This section describes how to install the NMA for NetView software or to upgrade it from version 1.3 to 1.3B.

Upgrading from NMA for NetView v1.3 to 1.3B is the same as installing. The installation procedure automatically upgrades your software also. In addition, if you have upgraded from NetWare v3.1*x* to NetWare 4.*x*, the installation procedure automatically installs the files to make NMA for NetView compatible.



If the NetWare for SAA software is installed in the NetWare server, do not install the NMA for NetView software. NetWare for SAA provides NetView management support, which is similar to NMA for NetView.

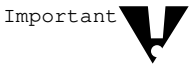
To install or upgrade the NMA for NetView software:



1. **If the server is not running, start the server and all prerequisite NLMs and drivers.**

   "Preparing the NetWare Server" beginning on page 2-14 describes which NLMs and drivers must be running.

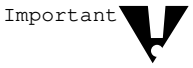
2. **If a version of NMA for NetView earlier than 1.3 is installed, remove that version of the software.**



   Do not use the NetWare INSTALL utility to remove versions 1.0 or 1.2 of NMA for NetView. You must remove NMA for NetView with the version of NVINSTAL that was used to install that version of NMA for NetView.

   For instructions on removing versions 1.0 or 1.2 of NMA for NetView, see the documentation for that version of the software.

3. **If you are installing or upgrading from the installation diskettes, insert *NMA for NetView 1.3.B, Disk 1*, into one of the server's floppy disk drives.**



   Skip this step if you are installing or upgrading from installation directories on a local hard disk or network drive. For instructions on setting up an optional installation directory, see "Preparing NMA for NetView Installation Directories (Optional)" on page 2-13.

4. **Start the NetWare INSTALL utility by entering:**

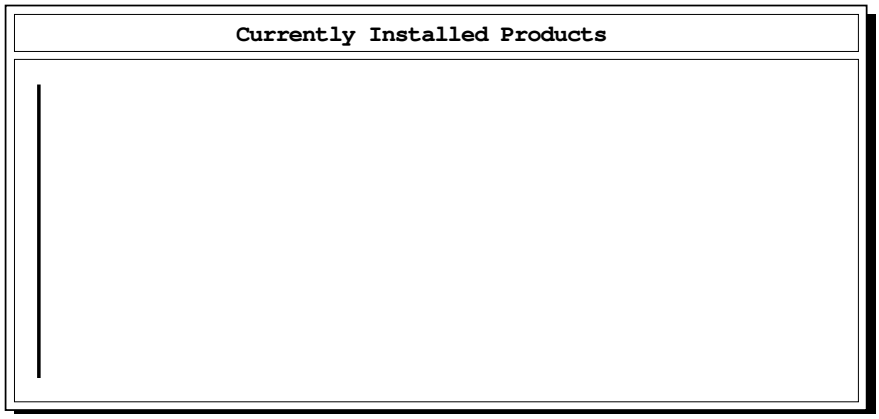
   ```
   :load install
   ```

   - If you are running NetWare v3.1*x*, the INSTALL utility displays the Installation Options menu.
   - If you are running NetWare 4.0 or later, the INSTALL utility displays the Select an Installation Method menu. Select *Maintenance/Selective Install* from the Select an Installation Method menu. The INSTALL utility then displays the Installation Options menu.

5. **Select *Product Options* from the Installation Options menu.**

   The Currently Installed Products window appears (Figure 2-4).

Figure 2-4
Installation Prompt



6. **Press <Insert>.**

   You are prompted to specify the location of your NMA for NetView installation files.

7. **Specify where the installation files are located.**

   - If you inserted *NMA for NetView 1.3B, Disk 1* in the server drive A:, press <Enter>; otherwise, type the letter of the drive where you inserted the diskette and press <Enter>.
   - If you copied the installation files to an installation directory in the DOS partition of your server's hard disk or in a network drive, enter the path to that directory. For example:

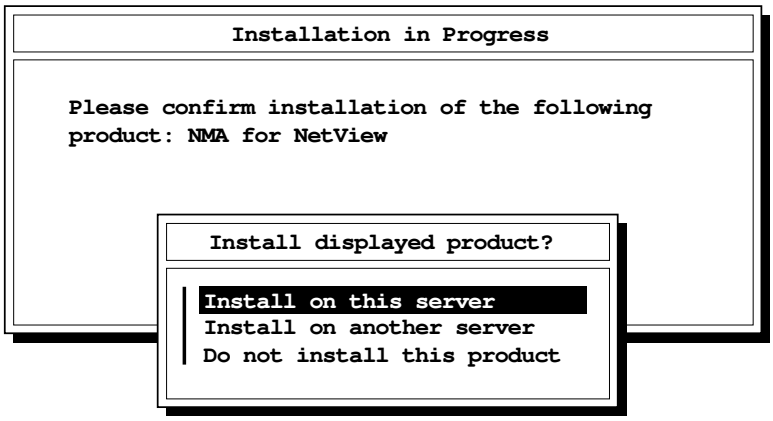
     ```
     >c:\disk1
     ```

Important

You *must* specify DISK1 at the end of the above directory path to continue the installation.

The prompts shown in Figure 2-5 appear.

Figure 2-5
NMA for NetView Confirmation



8. **Select the option *Install on this server*.**

9. **Follow the prompts until all the required files are installed on the server.**

   After installation is complete, the *NMA for NetView* item appears highlighted in the Currently Installed Products window.

10. Run NVCONFIG to configure NMA for NetView before running NMA for NetView.

- If you want to run NVCONFIG immediately, highlight the *NMA for NetView* option in the Currently Installed Products and press <Enter>.

  The NMA for NetView Communications Options menu appears. Configure the software as described in "Configuring NMA for NetView" beginning on page 3-3.

- If you are not ready to configure the software, you can exit the NetWare INSTALL program and restart the program when you are ready to configure. To exit the program, press <Esc>.

Preparing the Host

NMA for NetView requires certain hardware and software at the host computer (see Table 2-3). These host requirements vary according to the NMA for NetView communications option in use.

Table 2-3
Connection Requirements

Components Supporting Direct Host Connection	Components Supporting Collection Point Server Connection
1. NetView software on the host	1. NetView software on the host
2. PU Type 2.0 definition in the Virtual Telecommunications Access Method (VTAM*) system on the host	2. NetWare for SAA on the collection point server
3. Token ring LAN connection between the host and the NMA for NetView server	3. Collection point server connection to the host
4. NetView code points for NetWare if the host version of NetView is 2.1 or earlier	4. NetView code points for NetWare if the host version of NetView is 2.1 or earlier

The following sections describe each of the host components that may be required.

NetView Software

NetView software is required to receive the NetWare alert messages and send commands to NetWare servers. The host systems programmer is responsible for installing NetView.

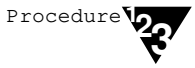
PU Type 2.0 Definition in VTAM

If you are configuring NMA for NetView for direct host communications, the host must allocate a physical unit (PU) for the NMA for NetView server. NetView messages flow over a session between the PU and the system services control point (SSCP) host component.

Servers that are configured for collection point communications use the SSCP-PU session allocated to the collection point server. When using the collection point communications option, the NMA for NetView server does not require a PU definition.

You are responsible for telling the host systems programmer what type of PU definition you need. Because some NMA for NetView configuration parameters must be set to match certain host parameters, you must ask the host systems programmer for the host configuration parameter settings.

To request a PU and get the host configuration parameters, you need to do the following:



1. **Photocopy Table 3-1 on page 3-5.**

   The host communications parameters in Table 3-1 are the NMA for NetView parameters that must be set to match parameters at the host.

2. **Contact the host systems programmer and request a PU definition for your NMA for NetView server.**

   Table 2-4 lists three types of host communication equipment and the PU definition required for each type. The host systems programmer should be able to tell you what type of communication equipment is processing your connection.

NMA for NetView requires no logical unit (LU) definitions.

Table 2-4
PU Type Definitions for Host Communication Equipment

Communication Equipment	PU Definition
937*x* attachment	Switched token ring PU Type 2.0
37*xx* attachment	Switched token ring PU Type 2.0
3174 controller	Nonswitched PU Type 2.0

Example 2-1 is a sample PU definition for a 937*x* attachment. This sample is provided to assist the host systems programmer in allocating a PU definition for NMA for NetView.

Example 2-1
Sample PU Definition for 937x Attachment

```
NMA4NV VBUILD TYPE=SWNET
*********************************************************************
TOKEN RING PU 2.0 FOR NMA FOR NETVIEW
*********************************************************************
T12345 PU ADDR=04,                                                  X
               IDBLK=017,                                           X
               IDNUM=12345,                                         X
               LANSW=YES,                                           X
               MAXDATA=1033,                                        X
               PUTYPE=2,                                            X
               ISTATUS=ACTIVE                                       X
```

3. Ask the host systems programmer for the host communications parameters for your NMA for NetView server.

Table 2-5 lists the NMA for NetView configuration parameters that must match settings on the host communications equipment. The first column lists the parameter names as they appear in the NVCONFIG program. Columns 2 through 4 list the corresponding host parameters for three types of host communications equipment.

Table 2-5
NVCONFIG Parameters That Must Match Host Parameters

NVCONFIG Parameter Name	937*x* Attachment Parameter Location	37*xx* Attachment Parameter Location	3174 Controller Parameter Location
Peripheral Node Control Point (PNCP) Name	CPNAME statement (if any) in the switched PU definition	Not applicable	Not applicable
Token Ring Destination Node Address	MACADDR definition in the PORT statement	Token interface card (TIC) address (LOCADD=*value)* in the Network Control Program (NCP) definition	Statements 900 and 940 in the Customization Panels
Token Ring Destination Service Access Point (SAP)	Not applicable	Enter 4 for this parameter.	Configuration question 900 in the Customization Panels
Token Ring Service Access Point (SAP)	SAPADDR definition in the PORT statement	Enter 4 for this parameter.	Statement 940 in the Customization Panels
Block ID	IDBLK statement in the switched PU definition	IDBLK statement in the switched PU definition	Not applicable; no entry required
PUID for Token Ring Connection	IDNUM statement in the switched PU definition	IDNUM statement in the switched PU definition	Not applicable; no entry required

Record the host systems parameters as follows:

3a. Locate the column in Table 2-5 for the host communications equipment your host connection will use.

3b. Ask the host systems programmer for the values of the parameters in that column.

3c. Write down the host communications parameters on the photocopy of Table 3-1.

4. Save the photocopy of Table 3-1 so that you have the host configuration information when you configure NMA for NetView. (Configuration instructions begin on page 3-3.)

NetWare for SAA

When NMA for NetView is configured for collection point communications, you must install NetWare for SAA in the collection point server. To configure NetWare for SAA for host communications, see the *NetWare for SAA 1.3 Rev. B Administration Guide*.

Connection to the Token Ring LAN

When NMA for NetView is configured for direct host communications, the host must be connected to the token ring LAN. The host systems programmer should be responsible for this task.

Collection Point Server Connection to Host

When NMA for NetView is configured for collection point communications, the collection point server (NetWare for SAA) requires either a token ring, SDLC, Ethernet, or QLLC connection to the host's communications equipment. For more information on establishing a host communications link to the collection point server, see the *NetWare for SAA 1.3 Rev. B Administration Guide*.

Installation of NetView Code Points for NetWare

The code points allow NetView to display additional information about alerts that are received from NMA for NetView. These code points are provided with NMA for NetView and with NetView v2.1.

You may not need to install the code points for NetWare. If you are using NetView v2.1 or later, the code points are included with NetView and do not have to be installed.

If you are using an earlier version of NetView, the code points for NetWare must be installed once. You and the host systems programmer must install the code points if the NetWare code points have never been installed. Installation is not required if the code points for NetWare have been installed for any other NMA for NetView v1.3-or-later server or NetWare for SAA 1.3-or-later server.

For additional information on code points and their installation, see Appendix A, “Installing Code Points for NetWare.”

chapter 3

Configuring, Loading, and Unloading NMA for NetView

This chapter describes the following procedures for managing the NMA for NetView software. You must install NMA for NetView before you can begin these procedures.

- Start the NVCONFIG configuration utility (page 3-2)
- Use NVCONFIG to configure or reconfigure the NMA for NetView software (page 3-3)
- Use NVCONFIG to enable or disable NetView alert generation, RUNCMD processing, or RUNCMD security (page 3-13)
- Load NMA for NetView (page 3-15)
- Unload NMA for NetView (page 3-15)
- Administer NMA for NetView remotely (page 3-16)
- Configure alert flow control in servers with direct host connections (page 3-17)
- Check for failed LOAD or UNLOAD RUNCMNDS (page 3-20)
- Remove the NMA for NetView software (page 3-21)

These are independent procedures—not subdivisions of a long procedure. To complete any of these procedures, refer to the page where the procedure begins.

Starting NVCONFIG

To start NVCONFIG:

Procedure

1. **If the server is running, start the server and all prerequisite NLMs and drivers.**

   "Preparing the NetWare Server" beginning on page 2-14 identifies the NLMs and drivers that must be running.

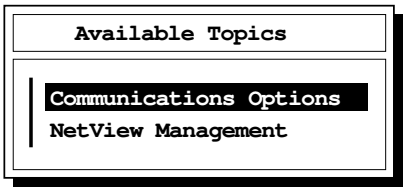
2. **If NMA for NetView is running on your server, unload the program as described on page 3-15.**

3. **Enter the following command:**

   ```
   :load nvconfig
   ```

   The server loads NVCONFIG from the SYS:SYSTEM directory; then NVCONFIG displays the Available Topics menu (Figure 3-1).

Figure 3-1
Available Topics Menu



4. **Do one of the following:**

   - Select *Communications Options* to configure NMA for NetView for direct host or collection point server connections. If you select this option, NVCONFIG displays the Communications Options menu. See "Configuring NMA for NetView" on page 3-3.
   - Select *NetView Management* to enable or disable forwarding alerts to the NetView console, processing NetView RUNCMDs, and enforcing RUNCMD security. If you select this option, NVCONFIG displays the NetView Management menu. See "Enabling and Disabling Features" on page 3-13.

Configuring NMA for NetView

You must configure the NMA for NetView software before loading NMA for NetView. Later, if you want to change the configuration, you can reconfigure NMA for NetView. This section describes how to configure or reconfigure the NMA for NetView software.

Important

Before you can configure NMA for NetView, you must have installed the software as described in Chapter 2.

You can configure the software for

- Direct host communications
- Collection point server communications

Important

Although NMA for NetView allows you to configure the software for either communications option, your installation may not support both options. Each communications option requires specific hardware components and proper NetWare preparation. Configure NMA for NetView to use the option you planned to use when you followed the instructions in Chapter 2.

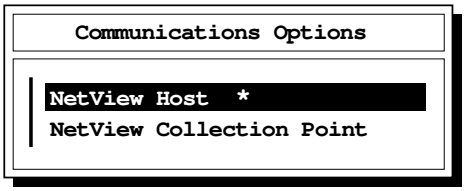
If you want to configure NMA for NetView to use the other communications option, review the instructions in Chapter 2 to see what changes may be required to support the other communications option.

Procedure

1. Select *Communications Options* in the Available Topics menu of NVCONFIG.

NVCONFIG displays the Communications Options menu (Figure 3-2).

Figure 3-2
Communications Options Menu



The currently active option, either *NetView Host* or *NetView Collection Point*, is marked by an asterisk.

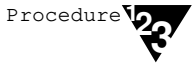
2. Select the type of communications you want to configure.

- To configure for direct host communications, select *NetView Host*. NVCONFIG displays the Token Ring Connection to Host menu. See the following section, "Configuring for Direct Host Communications," for more information on configuring direct host connections.
- To configure for collection point server communications, select *NetView Collection Point*. NVCONFIG displays the Connection to Collection Point box. See "Configuring for NetView Collection Point Communications" on page 3-11 for more information on configuring collection point server connections.

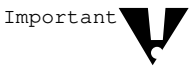
Configuring for Direct Host Communications

When using the direct host communications option, the NMA for NetView server connects to the host through a token ring LAN.

To configure NMA for NetView for direct host communications, use the following procedure:



1. Photocopy Table 3-1 on page 3-5; then write down the configuration parameters you want to use on the photocopy.



If you photocopied Table 3-1 as part of the procedure for requesting a PU definition (see page 2-26), continue to use the photocopy you created.

Table 3-1 on page 3-5 divides the configuration parameters into host communication parameters and server and LAN configuration parameters.

1a. Ask your host systems programmer for the values for the host communication parameters.

You should get this information when you request a PU definition for the server. Table 2-5 on page 2-28 provides additional information that can help the host systems programmer locate the host communication parameters for you.

1b. Define the server and LAN configuration parameters.

Some of the server and LAN configuration parameters control server operation; other parameters are labels that identify the server and LAN in messages exchanged with NetView.

Descriptions of the configuration parameters begin on page 3-7.

Table 3-1
Configuration Parameters for Direct Host Communications

Host Communication Parameters	Status	Value
Token Ring Destination Node Address	Required	_____
Token Ring Destination Service Access Point (SAP)	Required	_____
Block ID	Required for 937*x* and 37*xx* attachments	_____
PUID for Token Ring Connection	Required for 937*x* and 37*xx* attachments	_____
Server and LAN Configuration Parameters	**Status**	**Value**
Peripheral Node Control Point (PCNP) Name	Optional	_____
Token Ring Adapter Type	Required	_____
Logical Adapter Name	Required	_____
Token Ring Service Access Point (SAP)	Required	_____
Maximum Frame Size to Transmit Inbound	Required	_____

2. **If NVCONFIG is not running, start NVCONFIG as described on page 3-2.**

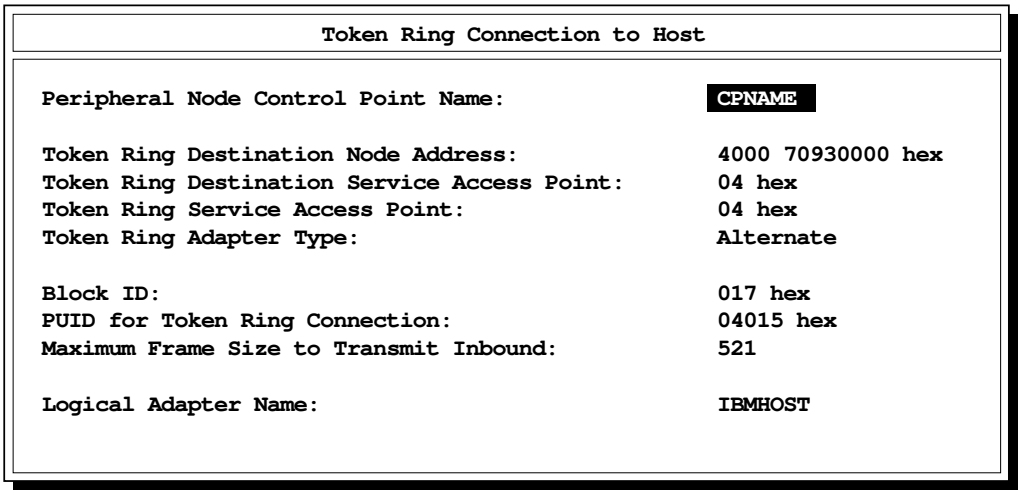
Important

Novell recommends that you unload NMA for NetView before starting NVCONFIG. Configuration changes do not take effect until the next time NMA for NetView is loaded.

3. **When NVCONFIG displays the Communications Options menu, use the arrow keys to select *NetView Host*; then press <Enter>.**

   The Token Ring Connection to Host configuration form (Figure 3-3) appears.

Figure 3-3
Token Ring Connection to Host Form



4. **Edit the host communication parameters.**

   Use the arrow keys to select a parameter, then press <Enter> to edit the parameter.

   For some parameters, NVCONFIG displays a cursor; for others it displays a menu. When NVCONFIG displays a cursor, use the keyboard keys to edit the current value. When NVCONFIG displays a menu, use the arrow keys to select the new value; then press <Enter>.

   See the following section, "Parameter Descriptions for the Token Ring Connection to Host Form," for more information on each parameter.

5. **When all host communication parameters are set, press <Esc> to exit the Token Ring Connection to Host form.**

   If you changed any of the configuration options, the program displays a configuration box that prompts you to save your changes.

6. **In the Save Changes confirmation box, use the arrow keys to select *Yes*; then press <Enter>.**

   NVCONFIG configures NMA for NetView for direct host communications, saves the configuration parameters, and displays a message to confirm that your changes are saved.

7. **Press <Esc> to clear the confirmation message.**

8. **Press <Esc> again to exit the Communications Options menu and NVCONFIG.**

Important

You must exit NVCONFIG before loading NMA for NetView.

The configuration process is now complete. For instructions on loading NMA for NetView, see page 3-15.

Parameter Descriptions for the Token Ring Connection to Host Form

The Token Ring Connection to Host form lists nine configuration parameters that you can adjust. Some of these parameters must be set before NMA for NetView can operate; other parameters are optional. The rest of this section describes how to set the configuration parameters for direct host communications.

Block ID

Set the block ID to match the corresponding value at the host. This hexadecimal number identifies the device type of the remote communication equipment.

The number entered in this field must be three digits long. To specify a value less than three digits, supply leading zeros.

- When the NMA for NetView server communicates with the host through a 937*x* or 37*xx* attachment, the Block ID parameter must match the value that follows the IDBLK= statement in the switched PU definition.
- When the server communicates through a 3174 controller, the Block ID parameter is ignored; therefore, no entry is required.

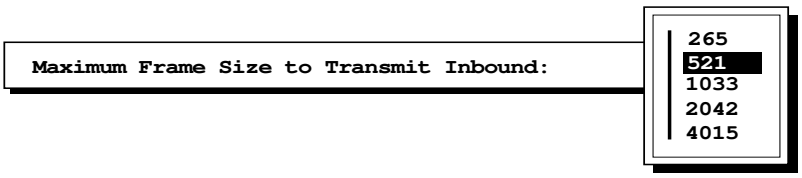
Logical Adapter Name

Set this parameter to match the adapter that is entered into the AUTOEXEC.NCF file. This name must match the AUTOEXEC.NCF file's adapter name. The logical adapter name can be up to 16 alphanumeric and/or special characters.

Maximum Frame Size to Transmit Inbound

This parameter sets the frame size for transmissions from NMA for NetView to the host. Press <Enter> to display a list of frame sizes (Figure 3-4).

Figure 3-4
Frame Size Choices for Transmitting Inbound Data



When configuring NMA for NetView, be sure to set the Maximum Frame Size to Transmit Inbound parameter to 521 or larger. If this parameter is set to a smaller size, the NetView host operator may not receive replies to commands.

Important 

When NMA for NetView is configured for collection point communications and the NetView operator reports lost RUNCMD responses, check the setting of the Maximum Frame Size to Transmit Inbound parameter on the collection point server. The collection point server's Maximum Frame Size to Transmit Inbound parameter controls NetView communications of the NMA for NetView server.

Important 

If you change the maximum frame size to transmit inbound to 2042 bytes, you must configure your system to accommodate this setting. Do so by modifying the event control block (ECB) size in your system's STARTUP.NCF file as follows:

```
Set maximum physical receive packet size = 2298
```

Peripheral Node Control Point Name

The peripheral node control point (PNCP) name is an optional entry. In Systems Network Architecture (SNA) terms, the NetWare server is connected to the host as a peripheral node. A peripheral node contains a software entity called a control point, which controls the resources of the SNA peripheral node.

If you enter a PNCP name, NMA for NetView sends the PNCP name to NetView in each alert. If you do not enter a PNCP name, NMA for NetView sends the default value, CPNAME.

PUID for Token Ring Connection

Set the PUID to match the corresponding PUID at the host.

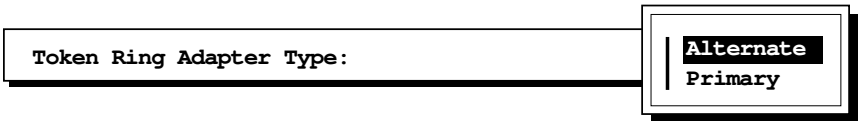
The hexadecimal number entered in this field must be five digits long. To specify a value of fewer than five digits, supply leading zeros.

When the NMA for NetView server communicates with the host through a 937*x* or 37*xx* attachment, the PUID parameter must match the value that follows the IDNUM= statement in the switched PU definition. When the server communicates through a 3174 controller, the PUID parameter is ignored; therefore, no entry is required.

Token Ring Adapter Type

In this field, specify the type of adapter your server is using for the host connection. Press <Enter> to display your two choices, *Primary* and *Alternate* (Figure 3-5).

Figure 3-5
Designation Choices of Adapter



Select *Primary* if the token ring adapter type switch (on the adapter) has been set to PRIMARY; select *Alternate* if the adapter type switch has been set to ALTERNATE. (Refer to the token ring adapter manual for information on switch settings.)

Token Ring Destination Node Address

Set this parameter to match the address of the host's token ring connection. Table 3-1 lists the host communication parameters that your host systems programmer should provide. Table 2-5 on page 2-28 contains additional information that the host systems programmer can use to locate the correct value for this address.

Token Ring Destination Service Access Point

This is the two-digit SAP number for the host.

Set this parameter to match the SAP ID of the host's token ring connection. Table 3-1 lists the communication parameters that your host systems programmer should provide. Table 2-5 on page 2-28 provides additional information that the host systems programmer can use to locate the correct value.

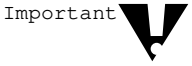
Token Ring Service Access Point

This is the two-digit SAP number for the server.

Set this parameter to match the SAP ID of the server's token ring connection. Table 3-1 lists the communication parameters that your host systems programmer should provide. Table 2-5 on page 2-28 provides additional information that the host systems programmer can use to locate the correct value.

Configuring for NetView Collection Point Communications

When configured for collection point communications, NMA for NetView indirectly connects to the host computer through a NetWare for SAA server. In this system configuration, the NetWare for SAA server is called a collection point server; the NMA for NetView server is one of its end point servers.



When NMA for NetView is configured for collection point communications and the NetView operator reports lost command replies, check the setting of the Maximum Frame Size to Transmit Inbound parameter on the collection point server. The collection point server's Maximum Frame Size to Transmit Inbound parameter controls NetView communications for the NMA for NetView server.

When NMA for NetView is configured as an end point server for collection point communications, the collection point server provides the following information in all forwarded messages:

- The PNCP name assigned to the collection point server
- The model number of the collection point server
- The serial number of the collection point server

For information on setting these parameters within NetWare for SAA, see the *NetWare for SAA 1.3 Rev. B Administration Guide*.

To configure NMA for NetView for NetView collection point communications, use the following procedure:

Procedure

1. **If NVCONFIG is not running, start NVCONFIG as described on page 3-2.**

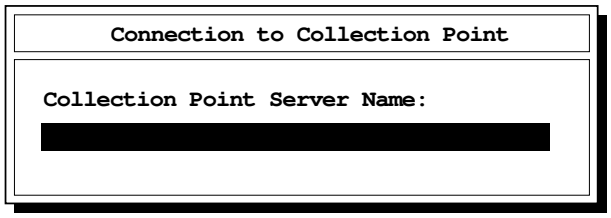
Important

Novell recommends that you unload NMA for NetView before starting NVCONFIG. Configuration changes do not take affect until the next time NMA for NetView is loaded.

2. **When NVCONFIG displays the Communications Options menu, use the arrow keys to select *NetView Collection Point;* then press <Enter>.**

   NVCONFIG displays the Connection to Collection Point dialog box (see Figure 3-6).

Figure 3-6
Connection to Collection Point Dialog Box



3. **Enter the collection point server name.**

   The value you enter must match the server name that was entered when the collection point server was started. The collection point server you name must be running NetWare for SAA 1.3 or later and must be configured to support NetView collection point communications.

Important

When changing the configuration from direct host communications to collection point server communications, you must edit the collection point server name. If you do not edit the name, NVCONFIG does not prompt you to save the configuration and NMA remains configured for direct host communications.

4. **Press <Esc> to exit the Connection to Collection Point dialog box.**

   If you changed any of the configuration options, the program displays a confirmation box that prompts you to save your changes. If you do not want to save changes to the configuration, select *No*, and press <Enter>.

5. **In the Save Changes confirmation box, use the arrow keys to select *Yes*; then press <Enter>.**

   NVCONFIG configures NMA for NetView for collection point server communications, saves the collection point server name, and displays a message to confirm that your changes are saved.

6. **Press <Esc> to clear the confirmation message.**

7. **Press <Esc> again to exit the Communications Options menu and NVCONFIG.**

The configuration process is now complete; NMA for NetView is ready for loading.

Important

You must exit NVCONFIG before loading NMA for NetView.

For instructions on loading NMA for NetView, see page 3-15. Instructions for automating the startup procedure appear on page 2-16.

Enabling and Disabling Features

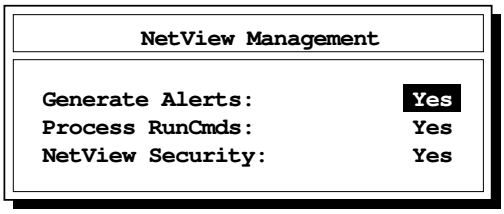
You can use the NetView Management menu to enable or disable the NMA for NetView Alert forwarding, RUNCMD processing, or RUNCMD security features.

Procedure

1. **Select the *NetView Management* option in the Available Topics menu.**

   NVCONFIG displays the NetView Management menu (Figure 3-7).

Figure 3-7
NetView Management Menu



2. **Select an option (*Generate Alerts*, *Process RunCmds*, or *NetView Security*); then type `Y` to enable the option or `N` to disable the option.**

   Use these options as follows:

   Generate Alerts: Use this option to enable or disable the generation of NetView alerts by this server.

   Process RunCmds: Use this option to enable or disable processing of NetView RUNCMDs addressed to this server.

   NetView Security: Use this option to control RUNCMD processing by the server when the *Process RunCmds* option is enabled. If the *NetView Security* option is enabled, all NetView RUNCMDs must contain a valid NetWare server user ID with appropriate privileges:

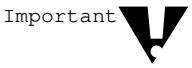
   - Supervisor-equivalent privileges or server console operator status on a NetWare v3.1*x* server
   - Security equivalence to the file server object or server console operator status on a NetWare 4.*x* server

   The SUPERVISOR user ID is not valid. If a RUNCMD does not contain a valid server user ID, the command is not processed and a message is returned to NetView.

   If the NetView Security option is disabled, the server processes all NetView RUNCMDs addressed to the server and ignores any user ID included within RUNCMDs

Loading NMA for NetView

The process of starting the NMA for NetView software is called loading. Before loading NMA for NetView, you must have installed and configured NMA for NetView. Chapter 2 describes how to install NMA for NetView; configuration instructions begin on page 2-25.



Before you load NMA for NetView, you or your server's AUTOEXEC.NCF file must invoke a series of commands. These commands are identified in "Preparing the NetWare Server," which begins on page 2-14.

To load NMA for NetView, enter the following command:

```
:load nmanv
```

Unloading NMA for NetView

Unload NMA for NetView when you want to

- Change the configuration of NMA for NetView
- Remove the NMA for NetView software (see page 3-21)

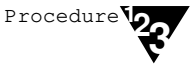
To unload NMA for NetView from the NetWare server, enter the following command:

```
:nvdown
```

NetWare displays a message informing you that NMANV.NLM has been unloaded.

Administering NMA for NetView Remotely

You can set up the server with NMA for NetView installed to support the NetWare RCONSOLE utility. With RCONSOLE you can load, unload, and configure NMA for NetView remotely from a workstation as follows:



1. **Make sure that the REMOTE and RSPX NLMs are loaded on the server installed with NMA for NetView.**

2. **From your network workstation, log in as SUPERVISOR to the directory on the local network server containing the remote network files (usually SYS:SYSTEM).**

3. **Start the RCONSOLE utility, and select the server installed with NMA for NetView.**

4. **When the system console prompt appears on your workstation screen, load or unload NMA for NetView or start NVCONFIG as if you were sitting at the server console.**

See the information on RCONSOLE in *NetWare Version 3.11 System Administration, NetWare 3.12 System Administration*, or the NetWare 4.*x* manual *Supervising the Network* for more information on running RCONSOLE.

Configuring Alert Flow Control

On NMA for NetView servers configured for direct host connections, you can configure NMA for NetView to limit the number of alerts that it and downstream workstations forward to the NetView host over a specified period of time.

How Alert Flow Control Works

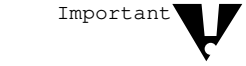
If the number of NetView alerts generated by or forwarded to the NMA for NetView server over a specified number of minutes exceeds its high-water mark, NMA for NetView stops forwarding alerts to the NetView host. NMA for NetView then sends one of the following alerts to the NetView host:

```
File Server Error Limit Reached: Server
  Configuration
```

or

```
Configurable Capacity Limit Reached: Server
  configuration
```

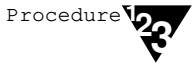
Once the number of alerts reaches or drops below a low-water mark during the specified number of minutes, NMA for NetView resumes alert forwarding to the NetView host.

Important 

NMA for NetView supports alert flow control only from NMA for NetView servers with direct host connections. It does not support alert flow control from end point servers.

Editing the NVCMDS.DB File for Alert Flow Control

To implement alert flow control, locate and edit the NVCMDS.DB ASCII file on the NMA for NetView server. Insert configuration parameters that control the flow of alerts to the NetView host from an NMA for NetView server configured for direct host communications.



1. **Locate the NVCMDS.DB file.**

   If you have not already copied NVCMDS.DB to the SYS:\SYSTEM\COMMEXEC directory on the server running NMA for NetView, you will find it on the *NMA for NetView 1.3B, Disk 3* diskette in the DATABASE directory.

2. **Using a text editor, open the NVCMDS.DB file on the NMA for NetView server.**

   Make sure the text editor is configured not to insert formatting or other non-ASCII characters.

3. **Insert the following lines:**

   ```
   @CONFIG ALERT THRESHOLDINTERVAL minutes
   @CONFIG ALERT HIGHWATERMARK hwalerts
   @CONFIG ALERT LOWWATERMARK lwalerts
   ```

   Replace *minutes* with a specified period of time, in minutes, that you want the number of NetView alerts to be measured over. The default value is 5.

   Replace *hwalerts* with the maximum number of NetView alerts allowed in the THRESHOLDINTERVAL time period. If this number is exceeded, NMA for NetView stops forwarding alerts to the NetView host. The default value is 1000.

   Replace *lwalerts* with the number of alerts at which to resume alert forwarding to the NetView console. NMA for NetView will resume forwarding alerts once the number of alerts in the period of time specified by THRESHOLDINTERVAL drops to or below this number. The default value is 100.

The NVCMDS.DB file may contain both RUNCMD-filtering statements (described in Appendix B, “Using NetView RUNCMD Filtering”) and NetView support configuration parameters. The RUNCMD-filtering statements and configuration parameters need not appear in any special order.

4. **Copy NVCMDS.DB to the SYS:\SYSTEM\COMMEXEC directory.**

   After you finish your edit, make sure your edited NVCMDS.DB file is located in the SYS:\SYSTEM\COMMEXEC directory of the NMA for NetView server you want to configure.

5. **Restart NMA for NetView.**

Example

The following lines were inserted into NVCMDS.DB on an NMA for NetView server configured for direct host communications to stop forwarding alerts to the NetView host if it generates or receives more than 500 alerts per five-minute interval. NMA for NetView will not resume forwarding alerts to the NetView host until the rate of incoming and generated alerts drops to or below 50 per five-minute interval.

```
@CONFIG ALERT THRESHOLDINTERVAL 5
@CONFIG ALERT HIGHWATERMARK 500
@CONFIG ALERT LOWWATERMARK 50
```

This solution limits the flow of NetView alerts from any specific NetWare server with direct host connection, and from all end point servers. However, this solution does not limit the collective flow of NetView alerts from all NetWare servers, since each server independently detects and reports LAN errors (such as token ring beaconing). You can use other methods to limit the collective flow. For example, in the case of token ring beaconing, you can use Novell's token ring drivers to minimize problems because these drivers do not report duplicate alerts to network management modules.

Checking for Failed LOAD or UNLOAD RUNCMDs

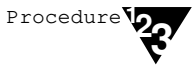
If you send a LOAD NLM or UNLOAD NLM RUNCMD from the NetView console, and the RUNCMD fails, NMA for NetView does *not* return a failure message to NetView.

Instead, NMA for NetView generates an NMA Load Module screen at the NMA for NetView server and displays either an error message or a prompt for missing parameters.

- If, for example, you issue a LOAD NLM RUNCMD with an incomplete set of parameters from the NetView console, NMA for NetView does not execute your LOAD command. Instead it generates the NMA Load Module screen at the NMA for NetView server with a prompt for the missing parameters.

- If you issue an UNLOAD NLM RUNCMD that fails because other NLMs may have to be unloaded before it, NMA for NetView generates the NMA Load Module screen with an error message.

If you suspect a LOAD NLM or UNLOAD NLM RUNCMD failed, do the following:



1. **Go the the NMA for NetView server and press <Ctrl+Esc> to list the available control screens.**

   If a LOAD or UNLOAD NLM RUNCMD issued from the NetView console has failed, you will see an option for the NMA Load Module screen.

2. **Select the *NMA Load Module* option to see the error message or prompt.**

The NMA Load Module screen is present on the server only if the LOAD or UNLOAD RUNCMD has failed.

Removing the NMA for NetView Software

To remove NMA for NetView 1.3B, use the NetWare INSTALL utility. When removing the software, the NetWare INSTALL utility deletes the NMA for NetView files from the server's SYS:SYSTEM directory and deletes entries from the internal NetWare bindery.

Important

To remove a previous version of NMA for NetView, follow the removal directions that came with that version. Do not use the NetWare INSTALL to remove versions of NMA for NetView previous to v1.3.

Procedure

1. **Start the NetWare INSTALL utility by entering**

   ```
   :load install
   ```

2. **Select *Product Options* from the Installation Options menu.**

3. **Use the arrow keys to select *NMA for NetView* from the Currently Installed Products listing.**

4. **Press** <Delete>**.**

5. **When the Uninstall NMANV prompt appears, select *Yes* to confirm the removal of NMA for NetView 1.3B.**

End of Chapter

appendix A

Installing Code Points for NetWare

The code points allow NetView to display additional information about alerts that are received from NMA for NetView. This appendix describes

- How to determine whether you need to install NetView code points
- An overview of the installation procedure
- How to install NetView code points on a Virtual Machine (VM) system
- How to install NetView code points on a Multiple Virtual Storage (MVS) system

Do You Need to Install?

Beginning with NetView v2.1, all versions of NetView contain all the code points required to display NetWare alerts. Contact a NetView operator or your systems programmer and ask for the version number of NetView. If the host is running NetView v2.1 or later, you do not need to install code points.

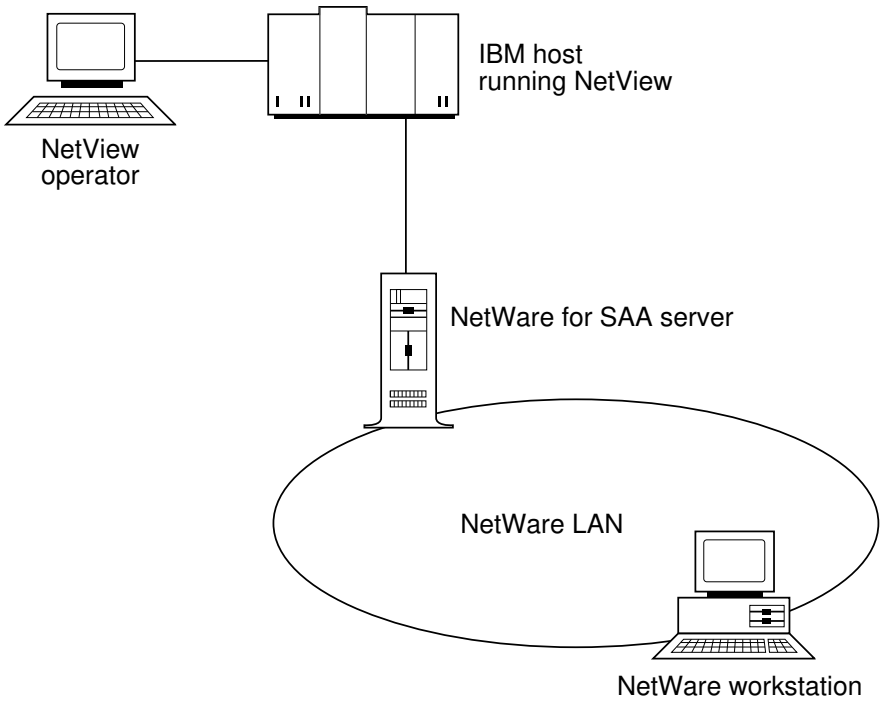
If the host is running an older version of NetView (before v2.1), you might need to install additional code points as described later in this appendix. You do not need to install the code points if the code points for NMA for NetView v1.2 or NetWare for SAA v1.2 are already installed on the NetView host. Once the code points are installed for one NetWare for SAA v1.2-and-later server, the installed code points support all NetWare for SAA v1.2-and-later servers.

Installation Overview

This section provides a general overview of the installation process. Detailed procedures for the VM and MVS host systems appear later in this appendix.

Figure A-1 shows the equipment you might need to use for installing the code points in NetView.

Figure A-1
Installation Overview



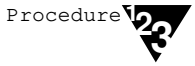
To install the code point messages, you must perform the following tasks:

- **Task 1.** Prepare to transfer files to the host:
  - Install NetWare for SAA (or a product with similar features) on a network server so that you can access the host from a workstation on the NetWare LAN.
  - Using 3270 terminal emulation software with file transfer capabilities on a LAN workstation (such as, the NetWare 3270 LAN Workstation by Attachmate), establish a host session and access the NetView RUN disk.
- **Task 2.** Install the code point messages:
  - Using the 3270 terminal emulation software on a LAN workstation, transfer the code point files from *NMA for NetView 1.3B, Disk 3* to the NetView RUN disk.
  - Using the 3270 emulation software on a LAN workstation, compile the code point files.
  - Using a NetView console or NetView on the LAN workstation running the 3270 emulation software, edit the NetView startup command file.
  - Using a NetView console or NetView on the LAN workstation running 3270 emulation, restart NetView and set the NetView recording and viewing filters.

Detailed instructions for these tasks appear in the following sections.

Preparing for File Transfer (VM and MVS Installations)

To prepare for transferring code point files to the host, follow the steps below:



1. **Install NetWare for SAA (or a product with similar features) on a network server so that you can access the host from a workstation on the NetWare LAN.**

2. **Locate the code point files on *NMA for NetView 1.3B, Disk 3*.**

   The files that you need are located in the CP directory on this diskette.

3. **On a LAN workstation, start up a 3270 emulation package with file transfer software capabilities.**

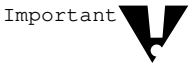
4. **Establish a host session on the workstation.**

   You must use a workstation with a 3.5-inch floppy diskette drive. To establish the host session, you can use NetWare for SAA on the server and 3270 terminal emulation software with file transfer capability on the workstation.

   For additional information on using your 3270 terminal emulation software and on transferring files, consult the documentation for the product you are using.

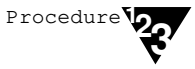
Installing NetView Code Points on VM Systems

Before starting the procedures in this section, complete the procedures in the preceding section, "Preparing for File Transfer (VM and MVS Installations)," on page A-4.



The following procedure is based on recommendations in the *NetView Customization Guide* (IBM publication SC31-6016). Novell recommends that you review the information on creating user-defined generic code points before attempting to install the code points.

To continue installing the NetView code points, complete the following steps:



1. **While running a host session from a LAN workstation running 3270 terminal emulation software, log on to MAINT.**

   If you do not know how to log on to MAINT, contact your host systems programmer.

2. **Access the NetView RUN disk by entering the following command:**

   ```
   ACCESS 334 A
   ```

3. **Using file transfer software on the workstation, transfer the code point files to the NetView RUN disk.**

   When transferring the files, use the ASCII, CRLF, and fixed record format options. If you are using a SEND program, for example, enter the following at the DOS prompt (>):

   ```
   SEND BNJ81UTB.NCC BNJ81UTB NCCFLST A (ASCII
     CRLF RECFM F
   SEND BNJ82UTB.NCC BNJ82UTB NCCFLST A (ASCII
     CRLF RECFM F
   SEND BNJ92UTB.NCCBNJ92UTB NCCFLST A (ASCII
     CRLF RECFM F
   SEND BNJ93UTB.NCC BNJ93UTB NCCFLST A (ASCII
     CRLF RECFM F
   SEND BNJ94UTB.NCC BNJ94UTB NCCFLST A (ASCII
     RLF RECFM F
   ```

```
SEND BNJ95UTB.NCC BNJ95UTB NCCFLST A (ASCII
  CRLF RECFM F
SEND BNJ96UTB.NCC BNJ96UTB NCCFLST A (ASCII
  CRLF RECFM F
```

4. **While running a host session from the workstation under 3270 emulation, compile the transferred files on the host by entering**

```
CNMSVM07 NUMBER=81 NETLNK=NOVELL
CNMSVM07 NUMBER=82 NETLNK=NOVELL
CNMSVM07 NUMBER=92 NETLNK=NOVELL
CNMSVM07 NUMBER=93 NETLNK=NOVELL
CNMSVM07 NUMBER=94 NETLNK=NOVELL
CNMSVM07 NUMBER=95 NETLNK=NOVELL
CNMSVM07 NUMBER=96 NETLNK=NOVELL
```

5. **While running a host session from the workstation under 3270 emulation, open the NetView startup command file for editing by entering the following command:**

```
XEDIT NETSTRT GCS
```

6. **Within the NetView startup file, locate the GLOBAL command and insert the word NOVELL immediately after the word LOADLIB.**

   This step includes the Novell library in the list of NetView libraries that are loaded at startup. The modified GLOBAL command will look like the following:

```
´GLOBAL LOADLIB NOVELL PROPMX USER NCCF
  STATMON NLDM NPDA'
```

7. **Log on to a NetView console and shut down NetView by entering the following NetView command:**

```
CLOSE IMMED
```

This command brings down NetView. To avoid untimely interruption of NetView services, consider performing this step during a scheduled maintenance period.

8. **When NetView has completed shutdown, log on to the NetView virtual machine. Then start up NetView by entering the following VM command:**

   ```
   CP IPL GCS
   ```

9. **While NetView is starting up, check the startup messages to make sure that they include**

   ```
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ92UTB IS AVAILABLE
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ93UTB IS AVAILABLE
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ94UTB IS AVAILABLE
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ95UTB IS AVAILABLE
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ096UTB IS AVAILABLE
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ81UTB IS AVAILABLE
   BNJ090I NETVIEW USER CODE POINT TABLE
     BNJ82UTB IS AVAILABLE
   ```

   The preceding messages indicate that the code point files for NetWare are available. If these messages are directed to another console, they will not appear.

10. **Disconnect from the NetView virtual machine by entering the following command:**

    ```
    #CP DISC
    ```

11. **Log on to NetView. When the main menu appears, select NPDA (Network Problem Determination Application) by entering**

    ```
    NPDA
    ```

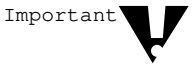
12. **From the NetView NPDA prompt, set the NetView recording and viewing filters by entering the following NetView commands:**

```
srf arec pass e paff
srf arec pass e temp
srf arec pass e impd
svf pass e paff
svf pass e temp
svf pass e impd
```

To display NetWare messages, you must set the recording and viewing filters each time NetView is started. To simplify NetView startup, enter these commands in a CLIST file.

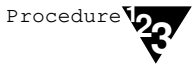
Installing NetView Code Points on MVS Systems

Before starting the procedures in this section, complete the procedures in "Preparing for File Transfer (VM and MVS Installations)" on page A-4.



The following procedure is based on recommendations in the *NetView Customization Guide* (IBM publication SC31-6016). Novell recommends that you review the information on creating user-defined generic code points before attempting to install the code points.

To continue installing the NetView code points, follow these steps:



1. **While running a host session from the workstation running 3270 terminal emulation software, log on with a Time Sharing Option (TSO) user ID that has sufficient access rights to create or update a system data set such as SYS1.*xxxx*.**

2. **Using this 3270 terminal emulation host session and the Interactive System Productivity Facility (ISPF), allocate a partitioned data set (PDS) to contain the code point files.**

   Give the data set a name like SYS2.NTVW.CODE.POINTS. Make sure to set the allocation parameters to the following values:

   - LRECL = 80.
   - RECFM = FB.
   - Directory blocks should be 5.
   - Primary allocation should be at least one cylinder or the equivalent in fixed-block architecture (FBA) blocks.
   - Secondary allocation should be at least one cylinder or the equivalent in FBA blocks.

3. **Exit ISPF by entering**

   ```
   =x
   ```

4. **Using the file transfer software on the workstation running 3270 terminal emulation software, transfer the INSTALL.JCL file and the code point files to the host.**

   When transferring files, use the ASCII and CRLF options. If you are using a SEND program, for example, enter the following at the DOS prompt (>):

   ```
   SEND BNJ92UTB.NCC
     'SYS2.NTVW.CODE.POINTS (BNJ92UTB)'
     ASCII CRLF
   SEND BNJ93UTB.NCC
     'SYS2.NTVW.CODE.POINTS (BNJ93UTB)'
     ASCII CRLF
   SEND BNJ94UTB.NCC
     'SYS2.NTVW.CODE.POINTS (BNJ94UTB)'
     ASCII CRLF
   SEND BNJ95UTB.NCC
     'SYS2.NTVW.CODE.POINTS (BNJ95UTB)'
     ASCII CRLF
   ```

```
SEND BNJ96UTB.NCC
  'SYS2.NTVW.CODE.POINTS (BNJ96UTB)'
  ASCII CRLF
SEND BNJ81UTB.NCC
  'SYS2.NTVW.CODE.POINTS (BNJ81UTB)'
  ASCII CRLF
SEND BNJ82UTB.NCC
  'SYS2.NTVW.CODE.POINTS (BNJ82UTB)'
  ASCII CRLF
SEND INSTALL.JCL
  'SYS2.NTVW.CODE.POINTS (INSTALL)'
  ASCII CRLF
```

5. **From a host terminal or a workstation running 3270 terminal emulation software host session and the ISPF editor, open the member**

   ```
   'SYS2.NTVW.CODE.POINTS (INSTALL)'
   ```

6. **Follow the directions inside the job control language (JCL) listing. These instructions appear under the label**

   ```
   TO EXECUTE THIS JCL:
   ```

   Refer to Example A-1 on page A-12 for a sample JCL listing for a code point installation.

   For additional information on using listings similar to this sample, refer to the *Network Program Products Samples* book (SC30-3352) from IBM.

7. **Submit the job.**

   After successful completion of this job, the code points load library member should be installed correctly.

8. **Log on to a NetView console and shut down NetView by entering the following command:**

   ```
   CLOSE IMMED
   ```

This command brings down NetView. To avoid untimely interruption of NetView services, consider performing this step during a scheduled system maintenance period.

9. **At the primary MVS operator console, start NetView by entering the following command:**

   ```
   S CNMPROC
   ```

10. **While NetView is starting up, check the startup messages to make sure that they include**

    ```
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ92UTB IS AVAILABLE
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ93UTB IS AVAILABLE
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ94UTB IS AVAILABLE
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ95UTB IS AVAILABLE
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ096UTB IS AVAILABLE
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ81UTB IS AVAILABLE
    BNJ090I NETVIEW USER CODE POINT TABLE
      BNJ82UTB IS AVAILABLE
    ```

11. **Log on to NetView. When the NetView main menu appears, select NPDA by entering**

    ```
    NPDA
    ```

12. **From the NPDA prompt, set the NetView recording and viewing filters by entering the following NetView commands:**

    ```
    srf arec pass e paff
    srf arec pass e temp
    srf arec pass e impd
    svf pass e paff
    svf pass e temp
    svf pass e impd
    ```

To display NetWare messages, you must set the recording and viewing filters each time NetView is started. To simplify NetView startup, enter these commands in a CSLIST file.

Example A-1

Code Point Installation JCL

```
//         JOB
//*********************************************************************
//*                                                                   *
//*  DESCRIPTION: PARSE, ASSEMBLE, AND LINKEDIT USER DEFINED CODE     *
//*               POINT TABLES.                                       *
//*                                                                   *
//*  NOTE ===>  THIS JCL ASSUMES:                                     *
//*                 1.)  THE CODE POINT SOURCE IS CONTAINED IN A      *
//*                      SINGLE LIBRARY                               *
//*                 2.)  THE MEMBER NAMES ARE FORMATTED AS AAABBCCC   *
//*                      WHERE AAA = BNJ                              *
//*                            BB  = CODE POINT TABLE NUMBER          *
//*                            CCC = UTB (MODIFIABLE BY SYMBOLIC      *
//*                                  VARIABLE "NAME")                 *
//*                                                                   *
//*  TO EXECUTE THIS JCL:                                             *
//*       1.)  PUT YOUR OWN JOB CARD ON THE JOB                       *
//*       2.)  MODIFY SYMBOLIC VARIABLE "NETLNK" TO POINT TO THE      *
//*            NETVIEW LOAD LIBRARY YOU WANT THE CODE POINTS LINKED   *
//*            INTO                                                   *
//*       3.)  MODIFY SYMBOLIC VARIABLE "USERLIB" TO POINT TO THE     *
//*            SOURCE LIBRARY NAME CONTAINING THE CODE POINTS.        *
//*********************************************************************
//CNMUSER PROC    NUMBER=,
//        NAME=UTB,
//        NETLNK='CNM.USERLNK',     ** USER CODE POINT LIBRARY
//        REG=1,                     ** REGION SIZE IN MEG
//        SOUTA='*',                 ** DEFAULT PRINTED OUTPUT CLASS
//        UNIT=SYSDA,                ** DEVICE TYPE FOR DASD
//        USERLIB='SYS2.NTVW.CODE.POINTS', ** CODE POINTS SOURCE
//        PS=3,                      ** PRIMARY CYLINDER ALLOCATION
//        SS=1                       ** SECONDARY CYLINDER ALLOCATION
//
//*********************************************************************
//*  VERIFY USER TABLE INPUT
//*********************************************************************
//PARSE    EXEC   PGM=BNJUSTBL,REGION=&REG.M,
//            PARM='&NUMBER'
//STEPLIB  DD DSN=SYS1.NPDALIB,DISP=SHR
//INTABLE  DD DSN=&USERLIB(BNJ&NUMBER&NAME),DISP=SHR
//OUTTABLE DD DSN=&&OUTDCB,DISP=(NEW,PASS),UNIT=&UNIT,
//            SPACE=(CYL,(&PS,&SS)),
//            DCB=(DSORG=PS,LRECL=80,BLKSIZE=3120,RECFM=FB)
```

Example A-1 ***continued***

Code Point
Installation JCL

```
//SYSPRINT DD SYSOUT=&SOUTA
//SYSUDUMP DD DUMMY
//SYSUT1   DD UNIT=&UNIT,SPACE=(CYL,(&PS,&SS))
//*******************************************************************
//*  ASSEMBLE STEP
//*******************************************************************
//ASM     EXEC PGM=IFOX00,PARM='LOAD,NODECK,OBJECT',
//             REGION=&REG.M,COND=(4,LT)
//SYSPRINT  DD SYSOUT=&SOUTA
//SYSLIB    DD DSNAME=SYS1.MACLIB,DISP=SHR
//SYSUT1    DD UNIT=&UNIT,SPACE=(CYL,(1,1))
//SYSUT2    DD UNIT=&UNIT,SPACE=(CYL,(1,1))
//SYSUT3    DD UNIT=&UNIT,SPACE=(CYL,(1,1))
//SYSGO     DD DSNAME=&&SYSGO,DISP=(NEW,PASS),UNIT=&UNIT,
//       SPACE=(CYL,(&PS,&SS)),
//       DCB=(DSORG=PS,LRECL=80,BLKSIZE=3120,RECFM=FB)
//SYSIN    DD DSN=*.PARSE.OUTTABLE,
//         DISP=(OLD,DELETE)
//*******************************************************************
//*  LINKEDIT STEP
//*******************************************************************
//LINK    EXEC PGM=IEWL,
//             PARM='XREF,LET,LIST,SIZE=(512K,128K),NCAL,REUS',
//             REGION=&REG.M,COND=(4,LT)
//SYSPRINT  DD SYSOUT=&SOUTA
//SYSUT1    DD SPACE=(CYL,(1,1)),DISP=(NEW,PASS),UNIT=&UNIT
//SYSLMOD  DD DSN=&NETLNK(BNJ&NUMBER&NAME),
//         DISP=SHR
//SYSLIN   DD DSNAME=&&SYSGO,DISP=(OLD,DELETE)
//         PEND
//STEP1    EXEC PROC=CNMUSER,NUMBER=92
//STEP2    EXEC PROC=CNMUSER,NUMBER=93
//STEP3    EXEC PROC=CNMUSER,NUMBER=94
//STEP4    EXEC PROC=CNMUSER,NUMBER=95
//STEP5    EXEC PROC=CNMUSER,NUMBER=96
//STEP6    EXEC PROC=CNMUSER,NUMBER=81
//STEP7    EXEC PROC=CNMUSER,NUMBER=82
```

End of Chapter

appendix **B**

Using NetView RUNCMD Filtering

The NetView RUNCMD filtering feature allows you to disable NetWare processing of select commands that may be sent by NetView operators from the NetView console. NetView RUNCMD filtering is an extension of the NetView support features described in Chapter 1.

To prepare for RUNCMD filtering, you must edit the sample command filter file or create a new command filter file. To enable the command filtering feature, you must install the RUNCMD filter file and restart NMA for NetView.

Important

If a RUNCMD filter file is not installed on an NMA for NetView server, or if NMA for NetView is not restarted after the RUNCMD filter file is installed, NMA for NetView processes all NetView RUNCMDs that conform to the command security requirements.

This appendix describes how command filtering works and how to

- Edit the sample RUNCMD filter file
- Create a new RUNCMD filter file
- Enable RUNCMD filtering

This chapter also lists and describes the commands that NetView operators can send to NetWare servers.

How RUNCMD Filtering Works

After RUNCMD filtering is enabled, NMA for NetView may apply the following two levels of security to each NetView command it receives:

- NMA for NetView first examines the user ID in the NetView RUNCMD. If the user ID has the proper status, NMA for NetView continues to process the command.

- NMA for NetView checks its internal table to see if the RUNCMD is disabled by command filtering. If the RUNCMD is not disabled, NMA for NetView processes the command.

When a NetView operator sends a RUNCMD that has been disabled by command filtering, NMA for NetView responds as follows:

- If the RUNCMD does not include an attribute parameter, or if it includes a single attribute parameter that has been disabled, NMA for NetView rejects the command and sends the following message to the NetView operator:

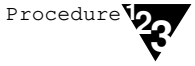
  ```
  Cannot execute this NetView Runcmd
  ```

- If the command includes multiple attribute parameters of which some are enabled and some are disabled, NMA for NetView processes all enabled parameters and ignores all disabled parameters.

Editing the Sample RUNCMD Filter File

The sample RUNCMD filter file is an ASCII text file that lists all the commands NetView operators can send to NetWare servers. Initially, this file does not disable NetWare processing for any commands. You can edit this file to disable processing for any or all commands.

To edit the filter file, use the following procedure:

Procedure 

1. **Use a text editor or a word processor to open the file named NVCMDS.DB.**

   This file is on *NMA for NetView 1.3B, Disk 3* in the DATABASE directory. This file is not automatically copied to the server during the installation process.

Important 

The text editor or word processor must be capable of editing an ASCII text file. Do not use programs that embed control characters into saved files for special effects such as bold and underline.

Example B-1 lists some of the statements from the sample command filter file.

Example B-1

Sample RUNCMD Filter File Entries

```
rem           The NetView Run Command Filtering File
....
;QUERY        SPX          VERSION
;QUERY        SPX          CONFIG
;QUERY        SPX          VERSION
```

The statements in the RUNCMD filter file conform to the following rules:

- Each line in the file is a separate statement.
- RUNCMD statements disable a RUNCMD and must contain two or three parameters in the form:

  action resource attribute_parameter

  In the third line of Example B-1, *action* is QUERY, *resource* is SPX, and *attribute_parameter* is VERSION. The action parameter defines the function to be performed, and the resource parameter defines the resource affected by the action. The attribute parameter defines the resource attribute the command affects.

  The action and resource parameters are required. When a command has one or more attribute parameters, you must enter one attribute parameter.

  The parameters for all RUNCMDs are listed in "RUNCMD Tables" beginning on page B-7.

- Each RUNCMD statement can disable one attribute parameter for a command. If a command has multiple attribute parameters, you must enter a separate command statement for each attribute parameter you want to disable.
- The letters in each statement may be entered in uppercase or lowercase. For example, REM is equivalent to *rem*, *Rem*, and *ReM*.

- When a statement begins with REM or a semicolon (;), the statement is a comment. NMA for NetView ignores comments. Comments affect the command statements as follows:

  When a command statement is preceded by REM or a semicolon, the statement is ignored and the command remains enabled.

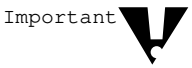
  When a command statement is *not* preceded by REM or a semicolon, the command is disabled.

- Command parameters may be separated by space or tab characters.

2. **Disable each command you want to disable by removing any comment characters (REM or a semicolon) at the beginning of the command statement.**

3. **If you want to enable a disabled command, make the command statement a comment (using REM or a semicolon) or delete the command statement.**

4. **Save the ASCII file.**

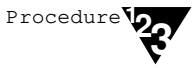


The ASCII file must be named NVCMDS.DB.

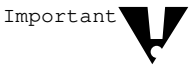
Creating a RUNCMD Filter File

A RUNCMD filter file is an ASCII text file that lists all the commands you want to disable.

To create a command filter file, use the following procedure:



1. **Use a text editor or a word processor to create a new file named NVCMDS.DB.**

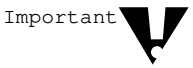


The text editor or word processor must be capable of editing an ASCII text file. Do not use programs that embed control characters into saved files for special effects such as bold and underline.

2. **In the ASCII file, add command and comment statements.**

   The command and comment statements operate as described in Step 1 of the preceding section, "Editing the Sample RUNCMD Filter File."

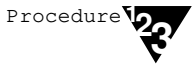
3. **Save the ASCII file.**



The ASCII file must be named NVCMDS.DB.

Enabling RUNCMD Filtering

To enable RUNCMD filtering, edit or create a RUNCMD filter file, and then use the following procedure:



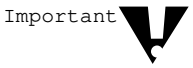
1. **Place a copy of the NVCMDS.DB command filter file in the server's SYS:\SYSTEM\COMMEXEC directory.**

2. **Restart NMA for NetView.**

   During initialization, NMA for NetView examines each line of the command filter file. Comment lines are ignored. Valid entries are registered in an internal table within NMA for NetView.

   If a RUNCMD line contains an error, NMA for NetView displays the following message on the NetWare system console:

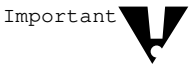
```
Invalid NetView RunCmd entry: xxxxxxx
  xxxxxxx<CR><LF>
```



Invalid entries are ignored. Invalid entries do not disable the command you intended to disable.

RUNCMD Tables

The tables in this section list RUNCMDs that the NetView operator can send to NetWare. Table B-1 lists these commands according to the action they perform. Table B-2 lists commands according to the resource upon which an action is performed. For more information on these RUNCMDs, see Chapter 3 of the *NetWare Reference Guide for NetView Operators*.



The commands in the following tables include all parameters that the NetView operator can send to NetWare. When you enter a command statement in a RUNCMD filter file, enter only the action, resource, and attribute parameter. When you enter an attribute parameter, do not include the equal symbol (=) or any italicized characters that appear in these tables.

When the phrase *(NetWare 4.x)* appears in the *Action* column, the command and all its parameters can be used only with servers that run NetWare 4.0 and later. These commands do not work with NetWare v3.11 and NetWare v3.12 servers.

Table B-1
NetWare Supported RUNCMDs Sorted by Action

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Add	**Directory**	**Trustee**	**Path=***path*	**UserName=** *uname* **Rights= [A][C][E][F] [M][R][S][W]**
Add	**File**	**Trustee**	**Path=***path*	**UserName=** *uname* **Rights= [A][C][E][F] [M][R][S][W]**
Add	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname* **Rights= [A][C][E][F] [M][R][S][W]**
Broadcast	**Server**			**Msg=**"*message*" **[UserName=** *uname***]**

Table B-1 *continued*

NetWare Supported RUNCMDs Sorted by Action

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Disable	**Server**	**Login**		
Disable	**TTS**			
Down	**Server**			**[Opts=[0][1]]**
Enable	**Server**	**Login**		
Enable	**TTS**			
Get *(NetWare 4.x)*	**Server**	**Parm=** "*parameter*"		
Load	**NLM**	**NLMName=***name*		**[Args=** "*argument*"**]**
Query	**Directory**		**Path=***path*	
Query	**Directory**	**Rights**	**Path=***path*	**UserName=** *uname*
Query	**Directory**	**SpaceAllowed**	**Path=***path*	
Query	**File**		**Path=***path*	**[UserName=** *uname***]**
Query	**File**	**Rights**	**Path=***path*	**UserName=** *uname*
Query	**IPX**	**Version**		
Query	**Server**			
Query	**Server**	**Date** **Time**		
Query	**Server**	**InternetAddr**		
Query	**Server**	**LoginStatus**		
Query	**Server**	**NumOfVols**		
Query	**Server**	**Volumes**		

Table B-1 *continued*

NetWare Supported RUNCMDs Sorted by Action

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**SPX**	**Config**		
Query	**SPX**	**Version**		
Query	**TTS**	**Status**		
Query	**User**	**DiskSpaceLeft**	**UserName=** *uname*	**VolName=** *vname*
Query	**User**	**DiskUsage**	**UserName=** *uname*	**VolName=** *vname*
Query	**Volume**		**VolName=** *vname*	
Query	**Volume**	**DiskUsage**	**VolName=** *vname*	**UserName=** *uname*
Query	**Volume**	**USpaceAllowed**	**VolName=** *vname*	**UserName=** *uname*
Remove	**Directory**	**Trustee**	**Path=***path*	**UserName=** *uname*
Remove	**File**	**Trustee**	**Path=***path*	**UserName=** *uname*
Remove	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname*
Set	**Directory**	**CDate=***date* **CTime=***time* **Owner=***name*	**Path=***path*	
Set	**Directory**	**SpaceAllowed=** *space*	**Path=***path*	

Table B-1 *continued*

NetWare Supported RUNCMDs Sorted by Action

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Set	**File**	**ADate=***date* **ArDate=***date* **ArTime=***time* **CDate=***date* **CTime=***time* **Owner=***name* **UDate=***date* **UTime=***time*	**Path=***path*	
Set	**Server**	**Date=***date* **Time=***time*		
Set *(NetWare 4.x)*	**Server**	**Parm=** "*parameter*"	**Value=***value*	
Set	**Volume**	**USpaceAllowed=** *space*	**VolName=** *vname*	**UserName=** *uname*
Set	**Volume**	**NoRestriction**	**VolName=** *vname*	**UserName=** *uname*
UnLoad	**NLM**	**NLMName=***name*		

Table B-2

NetWare Supported RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Add	**Directory**	**Trustee**	**Path=***path*	**UserName=** *uname* **Rights=** **[A][C][E][F]** **[M][R][S][W]**
Query	**Directory**		**Path=***path*	
Query	**Directory**	**Rights**	**Path=***path*	**UserName=** *uname*
Query	**Directory**	**SpaceAllowed**	**Path=***path*	

Table B-2 *continued*

NetWare Supported RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Remove	**Directory**	**Trustee**	**Path=***path*	**UserName=** *uname*
Set	**Directory**	**CDate=***date* **CTime=***time* **Owner=***name*	**Path=***path*	
Set	**Directory**	**SpaceAllowed=** *space*	**Path=***path*	
Add	**File**	**Trustee**	**Path=***path*	**UserName=** *uname* **Rights=** **[A][C][E][F]** **[M][R][S][W]**
Query	**File**		**Path=***path*	**[UserName=** *uname***]**
Query	**File**	**Rights**	**Path=***path*	**UserName=** *uname*
Remove	**File**	**Trustee**	**Path=***path*	**UserName=** *uname*
Set	**File**	**ADate=***date* **ArDate=***date* **ArTime=***time* **CDate=***date* **CTime=***time* **Owner=***name* **UDate=***date* **UTime=***time*	**Path=***path*	
Query	**IPX**	**Version**		
Load	**NLM**	**NLMName=***name*		**[Args=** "*argument*"**]**
UnLoad	**NLM**	**NLMName=***name*		

Table B-2 *continued*

NetWare Supported RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Broadcast	**Server**			**Msg=** "*message*" **[UserName=** *uname***]**
Disable	**Server**	**Login**		
Down	**Server**			**[Opts=[0][1]]**
Enable	**Server**	**Login**		
Get *(NetWare 4.x)*	**Server**	**Parm=** "*parameter*"		
Query	**Server**			
Query	**Server**	**Date** **Time**		
Query	**Server**	**InternetAddr**		
Query	**Server**	**LoginStatus**		
Query	**Server**	**NumOfVols**		
Query	**Server**	**Volumes**		
Set	**Server**	**Date=***date* **Time=***time*		
Set *(NetWare 4.x)*	**Server**	**Parm=** "*parameter*"	**Value=**value	
Query	**SPX**	**Config**		
Query	**SPX**	**Version**		
Disable	**TTS**			
Enable	**TTS**			
Query	**TTS**	**Status**		

Table B-2 *continued*

NetWare Supported RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**User**	**DiskSpaceLeft**	**UserName=** *uname*	**VolName=** *vname*
Query	**User**	**DiskUsage**	**UserName=** *uname*	**VolName=** *vname*
Add	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname* **Rights= [A][C][E][F] [M][R][S][W]**
Query	**Volume**		**VolName=** *vname*	
Query	**Volume**	**DiskUsage**	**VolName=** *vname*	**UserName=** *uname*
Query	**Volume**	**USpaceAllowed**	**VolName=** *vname*	**UserName=** *uname*
Remove	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname*
Set	**Volume**	**USpaceAllowed=** *space*	**VolName=** *vname*	**UserName=** *uname*
Set	**Volume**	**NoRestriction**	**VolName=** *vname*	**UserName=** *uname*

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