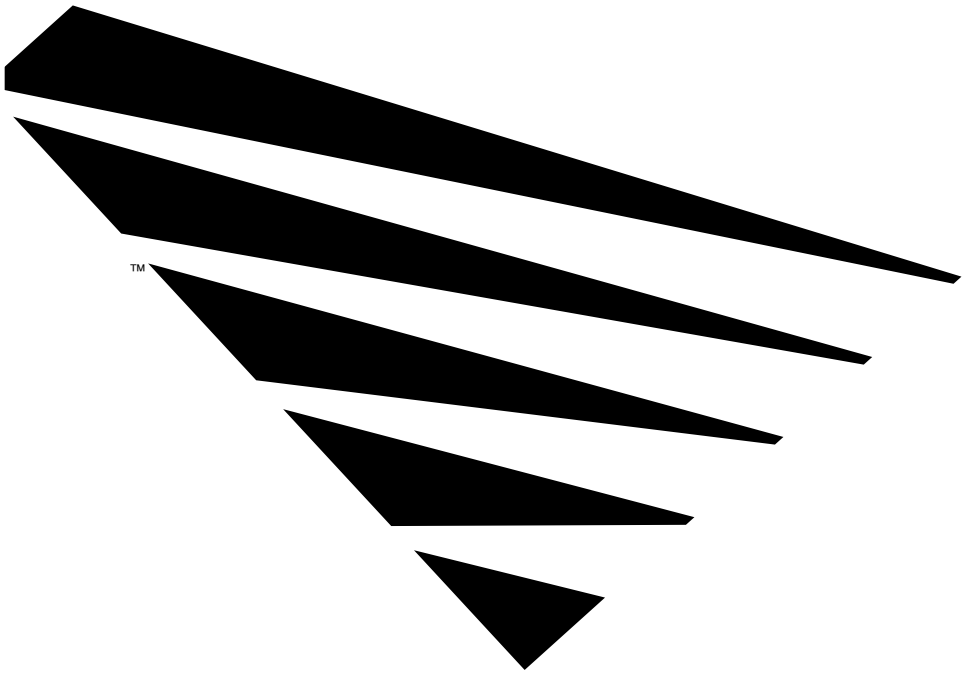

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NetWare Reference Guide for NetView Operators*

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Table of Contents

About This Guide

Who Should Read This Guide . . . vii
Content Overview . . . viii
Conventions . . . ix
Typographic Conventions . . . ix
Symbolic Conventions . . . x
Additional Reading . . . x

1 About NetWare Support for NetView

NetWare Products That Support NetView . . . 1-1
NetWare Servers . . . 1-2
NetWare for SAA . . . 1-3
NMA for NetView . . . 1-3
What Is New in Version 1.3B? . . . 1-4
NetView Support Features . . . 1-4
Alert Generation . . . 1-6
RUNCMD Processing . . . 1-7
Server Query RUNCMDs . . . 1-8
Server Control RUNCMDs . . . 1-9
RUNCMD Security . . . 1-10
RUNCMD Filtering . . . 1-11
Host Connectivity Options . . . 1-12
Collection Point Servers . . . 1-12
End Point Servers . . . 1-13
Standalone Servers . . . 1-15
Configuration File Control . . . 1-16
Alert Flow Control . . . 1-16
Downed Server Detection . . . 1-16
RUNCMD Retry and Timeout Control . . . 1-17
Feature Control . . . 1-17
NetWare for SAA . . . 1-17
NMA for NetView . . . 1-18
Support for the Open NetView Interface . . . 1-18
Summary of NetWare Software Support for NetView . . . 1-19

2 Message Descriptions

NetWare Alerts 2-2
Alert Description Format 2-3
Alerts Listing 2-4
RUNCMD Response Error Messages 2-47

3 Sending NetWare RUNCMDs

How to Send RUNCMDs 3-1
RUNCMD Routing 3-2
RUNCMD Security 3-3
Server RUNCMD Parameters 3-4
RUNCMD Examples 3-6
RUNCMD Tables 3-7
NetWare RUNCMD Descriptions 3-16
ADD VOLUME, DIRECTORY, or FILE TRUSTEE 3-17
BROADCAST SERVER 3-19
DISABLE SERVER LOGIN or TTS 3-20
DOWN SERVER 3-20
ENABLE SERVER LOGIN or TTS 3-21
GET SERVER 3-22
SET Parameters Unsupported by GET SERVER 3-23
LOAD CS or NLM 3-24
QUERY CS VERSION 3-25
QUERY DIRECTORY 3-25
QUERY FILE 3-26
QUERY IPX VERSION 3-27
QUERY SERVER 3-28
QUERY SPX 3-29
QUERY TTS 3-30
QUERY USER 3-30
QUERY VOLUME 3-31
REMOVE VOLUME, DIRECTORY, or FILE TRUSTEE 3-32
SET DIRECTORY 3-33
SET FILE 3-34
SET SERVER 3-35
SET Parameters Unsupported by SET SERVER 3-37
SET VOLUME 3-38
UNLOAD CS or NLM 3-39

A Installing Code Points for NetWare

Do You Need to Install? A-1
Installation Overview A-2
Preparing for File Transfer (VM and MVS Installations). A-4
Installing NetView Code Points on VM Systems A-5
Installing NetView Code Points on MVS Systems A-8

Index

About This Guide

This guide describes

- The NetWare products that support NetView network management
- The alerts that NetWare products send to NetView
- The commands, or RUNCMDs, that NetWare accepts from NetView
- How to install NetWare code point messages for NetView

Who Should Read This Guide

This guide is written for the NetView operator. Read this guide if you want to

- Learn about NetWare products that support NetView network management
- Learn more about the alerts that NetWare sends to NetView
- Send RUNCMDs to a NetWare server
- Install NetView code points

Content Overview

Chapter 1, About NetWare Support for NetView: Describes the NetWare products that support NetView, introduces the new features in version 1.3B of these products, and describes the complete set of NetView support features.

Chapter 2, Message Descriptions: Lists the alerts and RUNCMD response error messages that NetWare servers can send to NetView.

Each alert appears with a description of the alert's cause, a suggested action to take, and the corresponding NetWare message that appears at the NetWare server console.

Each RUNCMD response error message appears with a description of the messages cause and a suggested action to take.

Chapter 3, Sending NetWare RUNCMDs: Describes how to send RUNCMDs to NetWare servers. This chapter lists RUNCMDs alphabetically by command action and by server component and provides a description of each RUNCMD.

Appendix A, Installing Code Points for NetWare: Provides the procedure for installing NetWare code points for NetView. This procedure may not be required for your installation.

Conventions

This guide uses a variety of typographic and symbolic conventions.

Typographic Conventions

This book uses the following typographic conventions. The bold monospace convention used in Chapter 2, as explained below, however, varies from that used in the rest of the book.

Bold monospace Words appearing in **bold monospace** indicate commands that you enter at a prompt or select from a menu. For example:

RUNCMD

The letters and symbols that appear in the bold monospace typeface must be entered exactly as shown.

In Chapter 2, **bold monospace** type is used to show text that appears in the NetView Recommended Action for Selected Event panel.

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.

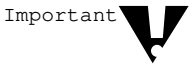
[ ] Square brackets enclose optional values. Do not enter the brackets. When an option appears in **bold monospace**, enter the option as described in the command description. For example:

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

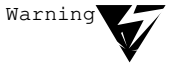
In this example, you can enter any or all of the letters that appear between the brackets. Do not enter the brackets.

Symbolic Conventions

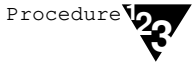
A *Note* symbol points out an item that may be of interest but is not vital to the operation of the product or to your safety.



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 NetWare products that you can manage with NetView.

- The *NetWare for SAA v1.3 Rev. B Administration Guide* (100-001166-003) describes the NetView support features in NetWare for SAA* 1.3B.
- The *NetWare Management Agent for NetView Administration Guide* (100-001479-003) describes the NetView support features in NetWare Management Agent™ for NetView 1.3B.

  An ASCII version of the *NetWare Management Agent for NetView Administration Guide* is provided through NetWire®, the online software subscription service provided by Novell over the CompuServe* information service.

- NetWare Version 3.1*x* Concepts

  NetWare Version 3.1*x* Installation

  NetWare Version 3.1*x* System Administration

  NetWare Version 3.1*x* Utilities Reference

  Bundled with NetWare v3.11 and v3.12, these books provide information on managing a NetWare local area network (LAN) and on NetWare LAN concepts.

- NetWare 4.*x* Utilities Reference

  NetWare 4.*x* Concepts

  Bundled with NetWare 4.*x*, these books provide information on managing a NetWare LAN and on NetWare LAN concepts.

End of Chapter

chapter 1

About NetWare Support for NetView

This chapter introduces

- The NetWare products that support NetView network management
- The new features in version 1.3B for NetWare support of NetView
- The complete set of features for NetWare support of NetView

NetWare Products That Support NetView

The following NetWare products support NetView network management:

- NetWare for SAA
- NetWare Management Agent (NMA) for NetView

NetWare for SAA and NMA for NetView must run in a NetWare server (v3.1*x* or 4.*x*). The following subsections describe NetWare servers, NetWare for SAA, and NMA for NetView.

Note *NetWare v3.1x* is any version of NetWare later than v3.1 and earlier than 4.0 (for example, NetWare v3.11 or NetWare v3.12). *NetWare 4.x* is NetWare 4.0 or later.

Note 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 Sterling Software is an example of a program that is designed to be compatible with NetView.

NetWare Servers

NetWare servers are products that provide local area network (LAN) communications for personal computers. NetWare v3.11 was the first version that participated in NetView network management. NetWare 4.*x* also participates in NetView network management. Throughout this guide, the term *NetWare server* refers to a server running NetWare v3.11 or later.

NetWare servers do not independently support NetView. To support NetView, the NetWare server must be operating with either NetWare for SAA or NMA for NetView.

Each NetWare server package provides software for

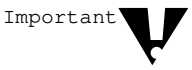
- One NetWare server
- Multiple NetWare workstations

The server provides the following services to workstations:

- **File services.** Workstation users can use disk space on the server as if the space were a hard disk mounted on the workstation. Because many users can use the same disk space, the file services feature allows workstation users to share files. Security features on the server allow the NetWare administrator to control how users access the server disk space.
- **Print services.** Workstation users can send print jobs to a printer attached to the server. The server receives all print jobs, places the jobs in a queue, and prints the jobs in order.
- **Additional services.** The NetWare server software is an operating system that supports LAN communications for additional network services such as NetWare for SAA and NMA for NetView.

NetWare for SAA

NetWare for SAA is a software product that runs as an additional service in a NetWare server.



The version of NetWare for SAA installed on a server must be is compatible with that server's version of NetWare. See "Summary of NetWare for SAA Support for NetView" on page 1-20 for a listing of compatible versions of NetWare for SAA and NetWare.

NetWare for SAA provides

- Communications between workstations and other computers using IBM's Systems Application Architecture (SAA) software
- NetView support services, which are described later in this chapter

Novell's implementation of SAA allows NetWare workstations to communicate with 3270 host computers and AS/400* host computers. NetWare for SAA also supports LU6.2 communications between NetWare workstations and other computers.

Throughout this guide, the term *NetWare for SAA server* refers to a NetWare server that is running both NetWare server software and NetWare for SAA.

NMA for NetView

NMA for NetView is a software product that runs as an additional service in a NetWare server. NMA for NetView provides NetView support services, which are described later in this chapter.

This product allows NetView to manage servers on which NetWare for SAA is not installed.

Throughout this guide, the term *NMA for NetView server* refers to a NetWare server that is running both NetWare server software and NMA for NetView.

What Is New in Version 1.3B?

Both NetWare for SAA 1.3B and NMA for NetView 1.3B provide new NetView support features absent from the previous versions of these products.

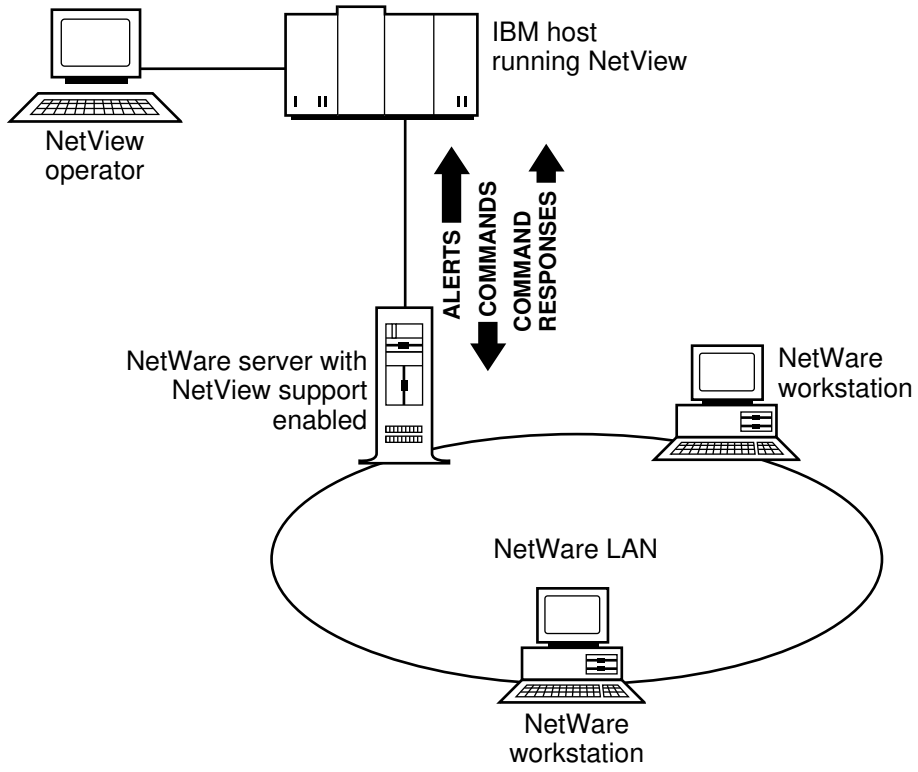
- New features for NetWare for SAA 1.3B include
  - The ability to configure NetView alert flow control, downed server polling, and RUNCMD retry and timeout control.
- New features for NMA for NetView 1.3B include
  - Support for NetWare 4.*x*.
  - The ability to configure NetView alert flow control if the NMA for NetView server is configured for direct host connections.
  - The ability to enable or disable RUNCMD security, NetView alert generation, and RUNCMD processing.

These features and the complete set of NetView support features are described in the next section, "NetView Support Features."

NetView Support Features

The NetView support features in NetWare for SAA and NMA for NetView allow you, the NetView operator, to manage NetWare servers from your NetView console. Figure 1-1 shows how a NetWare server participates in NetView network management.

Figure 1-1
NetView Support in a NetWare Server



The NetWare server in Figure 1-1 can be a NetWare for SAA server or an NMA for NetView server.

The options for connecting a NetWare server to NetView are described later in this chapter in “Host Connectivity Options.”

NetWare for SAA and NMA for NetView provide the following features for NetView support:

- Alert generation (page 1-6)
- RUNCMD processing (page 1-7)
- RUNCMD security (page 1-10)
- RUNCMD filtering (page 1-11)
- Host connectivity options (page 1-12)
- A configuration file parameter for configuring NetView alert flow control (page 1-16)
- On a NetWare for SAA server only, configuration file parameters for configuring downed server polling and RUNCMD retry and timeout control (page 1-16 and page 1-17)
- Feature control (page 1-17)
- Support for the Open NetView interface (page 1-18)

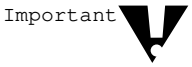
Alert Generation

Alerts are messages that are sent from NetWare servers to NetView. NetWare alerts appear in the following NetView Network Problem Determination Application (NPDA) panels:

- Alerts-Dynamic
- Alerts-Static
- Alerts-History

NetWare for SAA and NMA for NetView translate selected NetWare error and status messages into alerts for the following server components:

- The TOKEN.LAN driver supplied with NetWare servers
- Logical link control (LLC) protocol components of token ring drivers
- LLC protocol components of Synchronous Data Link Control (SDLC) drivers and Qualified Logical Link Control (QLLC) drivers (NetWare for SAA servers only)
- The NetWare operating system and file services



NetWare alerts describe the operation of the NetWare server. The NetView support feature does not monitor, report, or control the status of NetWare LAN workstations. However, the server may forward alerts and RUNCMDs for other applications that perform these functions.

The NetWare alerts are listed in Chapter 2, "Message Descriptions." Each message description in Chapter 2 includes the alert, an explanation of the alert's cause, a suggested action, and the corresponding NetWare message that appears on the server console.

RUNCMD Processing

RUNCMDs are messages that you send from NetView to a NetWare server via the NetView Network Communications Control Facility (NCCF). NetWare for SAA and NMA for NetView translate each NetView RUNCMD into a NetWare command, which is forwarded to the server component that normally executes the command.

RUNCMD response messages contain information about the server or about the result of a server command. After a server processes a RUNCMD from NetView, NetWare for SAA or NMA for NetView builds a RUNCMD response, embeds it in a NetView message, and sends it to NetView.

NetWare servers process two types of RUNCMDs:

- Server query RUNCMDs
- Server control RUNCMDs

This section describes the actions these RUNCMDs produce. For detailed information on sending RUNCMDs, see Chapter 3.

Important

All the RUNCMDs described in the following sections may be executed with NetWare for SAA 1.3B when the destination server is running NetWare 4.*x*. If the destination server is running NetWare v3.1*x*, NMA for NetView, or an earlier version of NetWare for SAA, some RUNCMDs are not supported. The RUNCMD tables and RUNCMD descriptions in Chapter 3, "Sending NetWare RUNCMDs," identify which RUNCMDs can be used with which servers.

Server Query RUNCMDs

Server query RUNCMDs request RUNCMD responses that contain information about server resources. These RUNCMDs allow you to query, from the NetView console, for

- Server information such as the server date, server time, number of volumes on a server, the server's login status, and the server's internetwork address
- Volume information such as the volume number and configuration, 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 number of a communication service, the Sequenced Packet Exchange (SPX) protocol, or the Internetwork Packet Exchange™ (IPX™) protocol
- *Most* (not all) of the server control parameters that can be set with the NetWare 4.*x* SET command (supported on NetWare 4.*x* servers only)
- The configuration of the SPX protocol
- The status of the Transaction Tracking System™ (TTS™)

Server Control RUNCMDs

Server control RUNCMDs allow you to do the following from the NetView console:

- Enable or disable server login, shut down a server, and broadcast a message to server users
- Set the server date, server time, and a variety of server control parameters
- Set the volume space allowed to a user and add or remove a trustee 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
- Set *most* (not all) of the server control parameters that can be set with the NetWare 4.*x* SET command (supported on NetWare 4.*x* server only)
- 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 TTS
- Load and unload a NetWare Loadable Module™ (NLM™)
- Load or unload a communication service (NetWare for SAA only)

RUNCMD Security

Both NetWare for SAA and NMA for NetView provide a RUNCMD security feature. The RUNCMD security feature checks each NetView RUNCMD you send for a valid NetWare user ID. If the RUNCMD contains a valid user ID, the server executes the command. If the user ID is missing or invalid, the RUNCMD is ignored.

Both NetWare for SAA and NMA for NetView allow the server administrator to enable or disable RUNCMD security. When the RUNCMD security feature is disabled, both products ignore the user ID and process all RUNCMDs.

Table 1-1 shows the NetWare user ID status required for command processing when the RUNCMD security feature is enabled.

Table 1-1
NetWare User ID Status for 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.

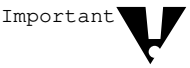
If RUNCMD security is enabled and a RUNCMD message does not include an acceptable NetWare user ID, NetWare rejects the command and sends the following message to NetWare:

```
Missing Operator name.
```

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

RUNCMD Filtering

The RUNCMD-filtering feature allows the NetWare administrator to disable processing of select commands that you send to NetWare. The NetWare administrator can disable any number of commands by listing them in a configuration and filtering file (NVCMDS.DB) that the NetWare server reads when loading.

Important 

Versions of NetWare for SAA and NMA for NetView earlier than v1.3 do not support RUNCMD filtering.

When you send a RUNCMD with attribute parameters that have been disabled by RUNCMD filtering, NetWare for SAA or NMA for NetView responds as follows:

- If the RUNCMD includes one single attribute parameter that has been disabled in the filter file, NetWare for SAA or NMA for NetView returns the following message:

  ```
  Cannot execute this NetView Runcmd.
  ```

- If the RUNCMD includes some attribute parameters that are enabled and some that are disabled, NetWare for SAA or NMA for NetView processes all enabled parameters and ignores all disabled parameters.

Note

The RUNCMD-filtering feature is controlled by the NetWare administrator. Instructions for controlling this feature appear in the *NetWare for SAA v1.3 Rev. B Administration Guide* and the *NetWare Management Agent for NetView Administration Guide* (for NMA for NetView 1.3B).

Host Connectivity Options

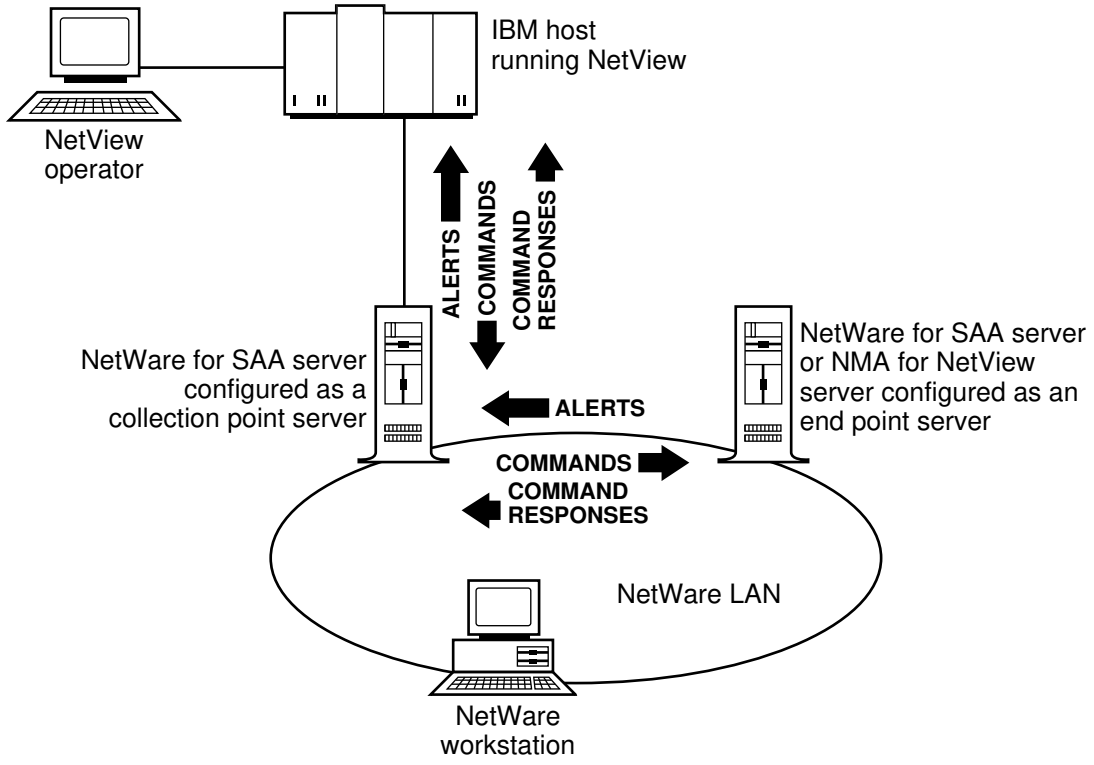
To connect to the NetView host, the NetWare for SAA server or NMA for NetWare server is configured as one of the following types:

- Collection point
- End point
- Standalone

Collection Point Servers

Figure 1-2 shows a NetWare for SAA server that is configured as a collection point server.

Figure 1-2
Collection Point and End Point Servers



NetWare for SAA servers—version 1.3 or later—are the only servers that can be configured as collection point servers. A collection point server connects to the host via one of the following types of connections:

- Token ring
- SDLC
- Ethernet
- QLLC
- Custom data link

The collection point server does not depend on any intermediate servers for the NetView connection. The collection point server may, however, forward alerts and commands for end point servers.

End Point Servers

Figure 1-2 also shows a NetWare server that is configured as an end point server.

End point servers communicate with NetView via a collection point server. NetWare for SAA and NMA for NetView servers—version 1.2 and later—may be configured as end point servers. The connection between the end point server and the collection point server is the NetWare LAN.

When an end point server 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 you send a RUNCMD from the NetView console to an end point server, NetView sends the RUNCMD to the collection point server, which forwards the RUNCMD over the NetWare LAN to the end point server. RUNCMD response messages from the end point server follow the same communications path as alerts.

Important

Any version 1.2-or-later end point server can communicate with any NetWare for SAA v1.3-or-later collection point server; however, only NetWare for SAA 1.3B collection point servers support all features described in this chapter. See Table 1-2 on page 1-20 for a list of features supported by version 1.3-or-later NetWare for SAA or NMA for NetView servers. For information on features supported by NetWare for SAA v1.2 or NMA for NetView v1.2, see the manuals supplied with those versions.

End point servers can reduce the cost of NetView management in NetWare LANs with multiple servers. Because end point servers can use the existing NetWare LAN connection to communicate with NetView (via a collection point server), end point servers do not require additional hardware for a direct host connection.

End point servers also can reduce the number of host connections required by NetWare servers. Each collection point server requires the allocation of a host physical unit (PU) Type 2.0 through which it communicates with NetView. End point servers communicate with NetView over the PU used by the collection point server. Therefore, end point servers do not require the allocation of additional host PUs.

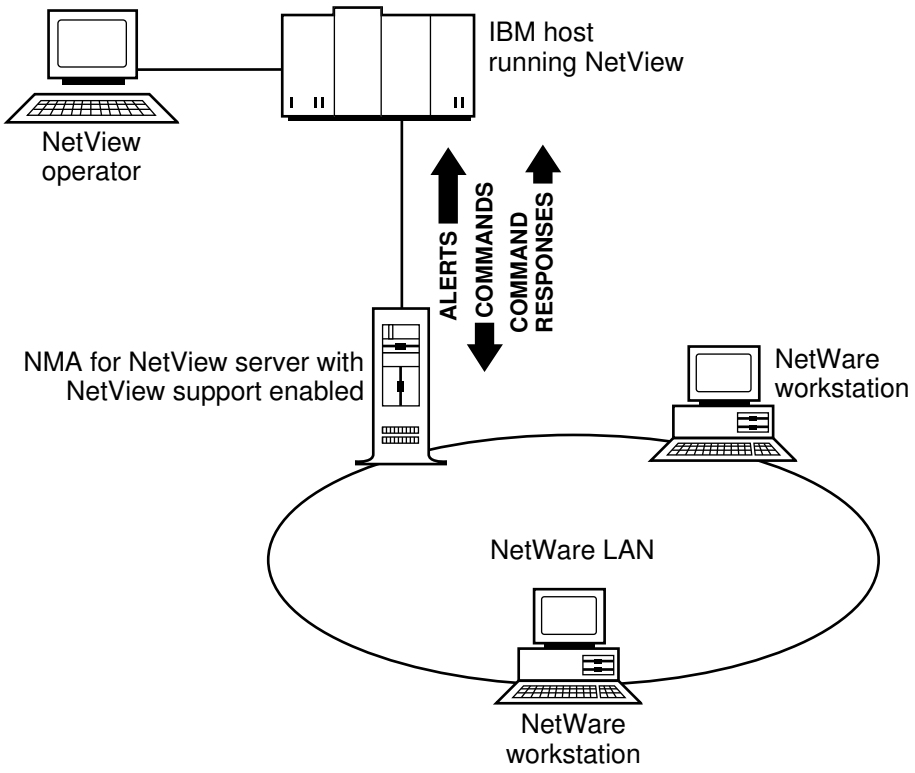
Note

Messages that travel between NetWare and NetView flow over a session between the PU Type 2.0 and the system services control point (SSCP) host component. If a server is not configured to use a PU Type 2.0 session, configure the server as an end point server.

Standalone Servers

Figure 1-3 shows a NetWare server that is configured as a standalone server.

Figure 1-3
NetView Support in a Standalone NetWare Server



Any NMA for NetView server may be configured as a standalone server. The connection between the standalone server and NetView must be a token ring LAN.

Important

Standalone servers cannot communicate with collection point servers.

Configure your NMA for NetView server as a standalone server only when your LAN does not have a collection point server. If your LAN has a collection point server, you should configure the NMA for NetView server as an end point server to that collection point server.

Configuration File Control

You can insert a parameter in the NVCMDS.DB file of the NetWare for SAA or NMA for NetView server to configure NetView alert flow control.

In the NetWare for SAA server only, you can also insert parameters to configure downed server detection and RUNCMD retry and timeout control.

Alert Flow Control

You can configure NetWare for SAA or NMA for NetView (if configured for direct host communications) to monitor and control the flow of NetView alerts to the NetView console. If the rate of generated alerts exceeds a specified *high water mark* over a given time interval, alerts are discarded until the rate slows to a specified *low water mark*. The high and low water marks and the time interval can all be defined in a configuration file.

See the *NetWare for SAA v1.3 Rev. B Administration Guide* or the *NMA for NetView Administration Guide* for more information.

Downed Server Detection

You can enable NetWare for SAA to detect if NetWare servers other than those running NetWare for SAA go down. The NetWare for SAA software periodically checks to see that registered end point servers are still active. See the *NetWare for SAA v1.3 Rev. B Administration Guide* for more information.

RUNCMD Retry and Timeout Control

You can set retry limits and timeout limits on RUNCMDs being forwarded from the NetWare for SAA collection point server to an end point server. See the *NetWare for SAA v1.3 Rev. B Administration Guide* for more information.

Feature Control

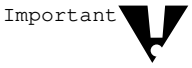
The NetWare support features for NetView are controlled server by server. The NetWare administrator determines which features are enabled in each server. The rest of this section describes the features that may be enabled or disabled in NetWare for SAA and NMA for NetView servers.

NetWare for SAA

On each NetWare for SAA server, the NetWare administrator can control the NetView support features as follows:

- Enable or disable all NetView support features
- Enable or disable sending alerts to NetView
- Enable or disable NetView RUNCMD processing
- Enable or disable the RUNCMD security option
- Configure NetWare for SAA for collection point or end point communications
- Use RUNCMD filtering to enable or disable processing of select RUNCMDs

The NetWare administrator uses a configuration utility program (CSCON) and a RUNCMD-filter file (NVCMDS.DB) to control these features.



Except for enabling or disabling of all NetView support, all the feature controls listed above apply only to the server that is being configured; these controls do not regulate communications with end point servers. For example, disabling RUNCMD processing in a collection point server does not prevent RUNCMD forwarding to end point servers.

NMA for NetView

In each NMA for NetView (1.3B or later) server, the NetWare administrator can control the NetView support features as follows:

- Enable or disable sending alerts to NetView
- Enable or disable NetView RUNCMD processing
- Enable or disable the RUNCMD security option
- Configure NMA for NetView for standalone or end point communications
- Use RUNCMD filtering to enable or disable processing of select RUNCMDs

The NetWare administrator uses a utility program (NVCONFIG) to select the communications option for the NMA for NetView server and enable or disable alert generation, RUNCMD processing, and RUNCMD security.

Support for the Open NetView Interface

NetWare for SAA and NMA for NetView, versions 1.3 or later, 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 NetWare for SAA or NMA for NetView server 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 provided with the application.

Summary of NetWare Software Support for NetView

The following tables summarize the Novell software that supports NetView management.

- Table 1-2 summarizes the versions of NetWare for SAA software that provide support for NetView functions. See page 1-20.
- Table 1-3 summarizes the versions of NMA for NetView software that provide support for NetView functions. See page 1-22.

Table 1-2
Summary of NetWare for SAA Support for NetView

NetWare for SAA Version	Supported Version(s) of NetWare	Supported Features	Supported Configurations and Connections
v1.3	v3.11	Alert generation Server query RUNCMDs Server control RUNCMDs RUNCMD security RUNCMD filtering Feature control Open NetView interface support	Collection point—token ring, SDLC, Ethernet, QLLC, & custom data link connections to host End point—token ring, or Ethernet connection to collection point
1.3 A	v3.11 & 4.0	Alert generation Server query RUNCMDs Server control RUNCMDs RUNCMD security RUNCMD filtering Feature control Open NetView interface support Alert flow control Downed server detection RUNCMD retry and timeout control	Collection point—token ring, SDLC, Ethernet, QLLC, & custom data link connections to host End point—token ring, or Ethernet connection to collection point

Table 1-2 ***continued***

Summary of NetWare for SAA Support for NetView

NetWare for SAA Version	Supported Version(s) of NetWare	Supported Features	Supported Configurations and Connections
1.3B	v3.1*x* & 4.01	Alert generation Server query RUNCMDs Server control RUNCMDs RUNCMD security RUNCMD filtering Feature control Open NetView interface support Alert flow control Downed server detection RUNCMD retry and timeout control	Collection point—token ring, SDLC, Ethernet, QLLC, & custom data link connections to host End point—token ring, or Ethernet connection to collection point

Table 1-3
Summary of NMA for NetView Support Software for NetView

NMA for NetView Version	Supported Version(s) of NetWare	Supported Features	Supported Configurations and Connections
v1.3 (Supplied with NetWare v3.12)	v3.1*x*	Alert generation Server query RUNCMDs Server control RUNCMDs RUNCMD security RUNCMD filtering Open NetView interface support	End Point—LAN connection to collection point Standalone—token ring LAN connection to host
1.3B (Distributed through NetWire)	v3.1*x* & 4.*x*	Alert generation Server query RUNCMDs Server control RUNCMDs RUNCMD security RUNCMD filtering Feature control Alert flow control (on standalone configurations) Open NetView interface support	End Point—LAN connection to collection point Standalone—token ring LAN connection to host

chapter 2

Message Descriptions

This chapter lists two types of messages that the NetWare for SAA and NMA for NetView software send to the NetView host:

- Alerts
- RUNCMD response error messages

Alerts are messages sent to the NetView host by NetWare for SAA or NMA for NetView to alert the NetView operator of conditions on the LAN that may require the operator's attention. See "NetWare Alerts," beginning on page 2-2.

RUNCMD response error messages are messages returned to the NetView host by NetWare for SAA or NMA for NetView in response to RUNCMDs that they cannot carry out. See "RUNCMD Response Error Messages," beginning on page 2-47.

Important

The alerts and error messages listed in this chapter are generated by NetWare for SAA or NMA for NetView servers. To learn more about an alert from an application that uses the Open NetView interface, refer to the manual for that application.

NetWare Alerts

This section lists the NetWare alerts that may appear in the following NetView NPDA panels:

- Alerts-Dynamic
- Alerts-Static
- Alerts-History

The Sender Hardware Product ID panel in NetView displays the following two values, which represent parameters defined in NetWare servers:

- The *Machine Type*= value in the NetView user interface is the same as the Model Number of Server Machine parameter in NetWare.
- The *Serial Number:Sequence Number*= value in NetView is the same as the Serial Number of Server parameter in NetWare.

These parameters describe the NetWare server to which a PU is assigned. When these values appear in alerts from end point servers, they describe the collection point server, not the end point server.

Alert Description Format

The alert descriptions in this section use bold text to represent text that appears on NetView display panels. Italicized text within a description indicates variable data received from the server. The message descriptions are listed in alphabetical order and use the following format.

Alert Description: Probable Cause

User **This text appears after the User Caused label in the NetView Recommended Action for Selected Event panel. This text describes a problem that may be corrected by a user action.**

Install **This text appears after the Install Caused label in the NetView Recommended Action for Selected Event panel. This text describes a problem that may have been caused by an installation error.**

Failure **This text appears after the Failure Caused label in the NetView Recommended Action for Selected Event panel. This text describes a problem that may have been caused by a component failure.**

Explanation Additional information on what the alert means.

Action Recommendation for corrective action.

NetWare message This is the NetWare message that appears on the server console of the NetWare for SAA or NMA for NetView server that generated the alert.

Alerts Listing

This section lists all the alerts that might be generated by NetWare for SAA and NMA for NetView servers. When managing NetWare servers, remember the following:

- Versions of NetWare for SAA or NMA for NetView earlier than 1.3B do not produce all of the alerts listed below.
- The NetWare message for each alert is from the software that generates that alert. Some messages are produced by the server's SERVER.EXE program, and others are produced by drivers and protocol stacks installed at the server. Different versions of software may produce different messages on the NetWare console.
- The NetWare message for each alert is from the latest version of software that generates that alert. For example, if NetWare v3.12 was the last version to generate the alert, the NetWare message listed is the message from NetWare v3.12. If NetWare 4.0 and NetWare v3.12 produce different messages for the same alert, the version 4.0 message is listed.

Auto removal: Token-ring lobe

Failure **Local token-ring adapter**
Local access unit
Local lobe cables

Explanation Adapter left the ring as part of the beacon automatic recovery process.

Action Ask the LAN administrator to review the link data.

NetWare message `TOKEN-NW-237-Adapter` *`number`*`-board` *`number`*`: The adapter is beaconing.`

`Ring status =` *`code`*`.`

Capacity exceeded: Logged in users

User	**The Maximum Number of Users Supportable by the Server has been Exceeded** **Problem detected by** *server*
Explanation	When the system tried to allocate a connection number for a workstation, the maximum number of connections (250) was exceeded.
Action	Depends on frequency. A connection will become available when other users log out from the system. If this message appears frequently, consider adding another server to the network.
NetWare message	`Out of server connections. User connect request failed.`

Capacity exceeded: Memory

User	**Insufficient Memory** **Problem Detected by** *server*
Failure	**Loadable Software Module** **Server Software Component may have Excessive Memory Requirements**
Explanation	The cache buffer limit is set to 0 (zero). All cache memory has been used.
Action	Add more memory to the file server.
NetWare message	`Cache memory allocator out of available memory.`

Capacity exceeded: Storage subsystem

User **Insufficient Storage Media Space**
Insufficient Storage Media Space for *volume*
size **K of Storage is in Use by Deleted Files that Cannot be Purged Yet**
Problem Detected by *server*

Explanation When the volume is out of disk space, the NetWare message (listed below) is broadcast to all users on the system. All attempts to write to files will fail because of insufficient disk space. The second line of the message indicates that deleted files have not been purged.

Action If the server is running NetWare v3.1*x*, ask the NetWare administrator to complete one or more of the following actions:

- Run the NetWare PURGE command to free up space occupied by deleted files that have not been automatically purged.
- Use the NetWare SET command to change the Minimum File Delete Wait Time parameter so that files can be purged at shorter intervals.
- Delete unnecessary files from the volume.
- Add more disks to the volume.

NetWare message `Volume` *`server/volume`* `out of disk space.` *`number`* `K of disk space is in use by deleted files.`

Capacity exceeded: Storage subsystem

User **Insufficient Storage Media Space**

Insufficient Storage Media Space for *volume*

There are no Deleted Files Using Storage Space

Problem Detected by *server*

Explanation When the volume is out of disk space, the NetWare message (listed below) will be broadcast to all users on the system. All attempts to write to files will fail because of insufficient disk space.

Action Delete unnecessary files from the volume, or add more disk space to the volume.

NetWare message `Volume server/volume out of disk space.`

`There are no deleted files using disk space.`

Capacity exceeded: Transmit/receive buffers

Install **System Transmit/Receive Buffer Threshold Set Too Low Problem Detected by server**

Failure **Software Device Driver**

Communications/LAN Device Driver

Communications Program

Transmit/Receive Buffer Limit Reached -- Buffers Are Not Being Released

Explanation A SET command parameter limits the number of Packet Receive Buffers that the operating system can allocate for itself. This parameter is set too low.

Action If the server is a NetWare v3.1*x* server, ask the NetWare administrator to use the NetWare SET command to correct the problem.

If the server is a NetWare 4.*x* server, use the GET SERVER RUNCMD (see page 3-22) to display the Maximum Packet Receive Buffers parameter. Use the SET SERVER RUNCMD (see page 3-35) to change the Maximum Packet Receive Buffers parameter.

NetWare message `LAN receive buffer limit reached. All buffers are in use.`

Configurable Capacity Limit Reached: Server configuration

Failure **Alert THRESHHOLD REACHED**

Explanation The number of NetView alerts generated by the collection point and end point servers has exceeded the HIGHWATERMARK parameter setting in the NVCMDS.DB file. Alert forwarding to the NetView console has been stopped until the number of generated alerts drops to or below the LOWWATERMARK setting in the NVCMDS.DB file. For more information on configuring NetView alert flow control, see the *NetWare for SAA Administration Guide* or the *NMA for NetView Administration Guide.*

Action Request the LAN administrator to check for LAN conditions that may be generating excessive NetView alerts. Check the HIGHWATERMARK setting in the NVCMDS.DB file on the collection point server and raise it if it is set too low.

NetWare message `NetView alerts have hit high water mark. NetView alert forwarding stopped.`

Directory search threshold reached: Application program

Install **Concurrent Directory Search Threshold for Workstations Set too Low**

Problem Detected by *server*

Failure **Application Program**

Workstation Concurrent Directory Search Threshold Reached

Explanation The directory search threshold has been reached.

Action Contact the NetWare server administrator.

NetWare message `Connection` *number* `USER` *name* `exceeded outstanding NCP directory search limit.`

File directory entry limit exceeded: File directory structure

User **File Directory Table Full on** *volume*
Problem Detected by *server*

Install **Directory Size Limit too Low on** *volume*

Explanation When a new directory is created, NetWare allocates a directory block for that directory. The file server limits the amount of directory blocks to 1/32 of the total disk space. If that amount of space is exceeded, the attempt to expand the directory table will fail.

Action Delete unused or unnecessary directories.

NetWare message `Error expanding` *`server/volume`* `directory because directory size limit was exceeded.`

File directory may be corrupted: Storage subsystem

Failure **Storage Subsystem**
Disk Write Errors on *volume*
Problem Detected by *server*

Explanation A write error occurred on the system. This error may have been caused by a hard disk or channel failure.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `Error expanding` *`server/volume`* `directory due to disk write errors.`

File directory may be corrupted: Storage subsystem

Failure **Storage Subsystem**
Error Writing Newly Allocated Directory Block on *volume*
Problem Detected by *server*

Explanation A write error occurred while a directory on the named server was being written to. This error may have been caused by a hard disk or channel failure.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `Error writing to a newly allocated directory block on` *`server/volume`*`.`

File directory may be corrupted: Storage subsystem

Failure **Storage Subsystem**
Error Writing to Directory on *volume*
Problem Detected by *server*

Explanation A write error occurred on the system that Hot Fix™ could not correct. (For more information on Hot Fix, see *NetWare v3.1x Concepts* or *NetWare 4.x Concepts*.) This error may have been caused by a hard disk or channel failure.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `Error writing to the directory on server/volume.`

File lock threshold reached: Application program

Install **File Lock Threshold for Workstations Set too Low**
Problem Detected by *server*

Failure **Application Program**
Workstation File Lock Threshold Reached
number **Lock Requests Failed**

Explanation The number of open files and file locks on the server has exceeded the maximum specified by the Maximum File Locks Per Connection parameter. The default value is 20000. *number* indicates the number of open file and file lock requests that failed because the limit was exceeded.

Action If the server is a NetWare v3.1*x* server, ask the NetWare administrator to use the NetWare SET command to correct the problem.

If the server is a NetWare 4.*x* server, use the GET SERVER RUNCMD (see page 3-22) to display the Maximum File Locks Per Connection parameter. Use the SET SERVER RUNCMD (see page 3-35) to change the Maximum File Locks Per Connection parameter.

NetWare message `Station number file lock threshold exceeded.`

`Total violations number.`

File lock threshold reached: Application program

Install **System File Lock Threshold Set too Low**
Problem Detected by *server*

Failure **Application Program**
System File Lock Threshold Reached
number **Lock Requests Failed**

Explanation — The number of open files and file locks on the server has exceeded the maximum specified by the Maximum File Locks parameter. The default value is 10000. *number* indicates the number of open file and file lock requests that failed because the limit was exceeded.

Action — If the server is a NetWare v3.1*x* server, ask the NetWare administrator to use the NetWare SET command to correct the problem.

If the server is a NetWare 4.*x* server, use the GET SERVER RUNCMD (see page 3-22) to display the Maximum File Locks parameter. Use the SET SERVER RUNCMD (see page 3-35) to change the Maximum File Locks parameter.

NetWare message — `System file lock threshold exceeded.`

`number file open or lock requests failed.`

File Server Error Limit Reached: Server configuration

Failure **Alert THRESHHOLD REACHED**

Explanation — The number of NetView alerts generated by the collection point and end point servers has exceeded the HIGHWATERMARK parameter setting in the NVCMDS.DB file. Alert forwarding to the NetView console has been stopped until the number of generated alerts drops to or below the LOWWATERMARK setting in the NVCMDS.DB file. For more information on configuring NetView alert flow control, see the *NetWare for SAA Administration Guide* or the *NMA for NetView Administration Guide.*

Action — Request the LAN administrator to check for LAN conditions that may be generating excessive NetView alerts. Check the HIGHWATERMARK setting in the NVCMDS.DB file on the collection point server and raise it if it is set too low.

NetWare message — `NetView alerts have hit high water mark. NetView alert forwarding stopped.`

LAN communications lost: Local LAN adapter

Failure **Local LAN Adapter**
network **Inaccessible Due to LAN Adapter Failure**
Problem Detected by *server*

Explanation — You received this message for one of the following reasons:

- The LAN board failed. The driver detected an error and removed the board.
- A user unloaded the LAN driver with the NetWare UNLOAD command.

Action — If the LAN board failed, replace the board. If the driver was unloaded with the NetWare UNLOAD command, you do not need to take any action.

NetWare message — `IPX local network number removed because LAN board is unreachable.`

LAN communications lost: Undetermined

Explanation — The connection to one of the known end point servers has been lost. Possible causes include

- The end point server going down.
- NetWare for SAA or NMA for NetView being unloaded on the end point server.
- A break in the LAN cable connection.

Action — Contact the server administrator and report that the end point server connection is down.

NetWare message — None.

Link error: LAN LLC communications

Failure **LAN LLC communications**
DM received

Explanation Link disconnected: a disconnect mode (DM) request was sent by the server's partner station. The partner station issued a DM, which severed the logical connection between the partner station and the server.

Action Reactivate the partner station. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote sent a DM.`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Link error: LAN LLC communications/remote node

Failure **LAN LLC communications/remote node**
Poll count exhausted

Explanation Link disconnected: inactive remote station. The server's partner station does not respond to polling either because it is down or because there is a problem with the connection.

Action Verify whether the partner station is active. If it is active, check the physical connection between the stations.

NetWare message `Link lost: remote is not responding.`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Link error: SDLC communications

Failure **SDLC communications error**
DM received

Explanation Link disconnected: a disconnect mode (DM) request was sent by the server's partner station. The partner station issued a DM, which severed the logical connection between the partner station and the server.

Action Reactivate the partner station. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote sent a DM.`

`Local DLC address: number, Remote DLC address: number`

Link error: SDLC communications/remote node

User **Remote device power off**

Failure **SDLC communication/remote node**
Line
Inactivity timer expired

Explanation Link disconnected: the inactivity timer of the local station expired. The server has not received anything for the amount of time specified by the server's inactivity timer.

Action Verify whether there is an active partner station. If there is, check the physical connections.

NetWare message `Link lost: local station's inactivity timer has expired.`

`Local DLC address: number, Remote DLC address: number`

Link error: SDLC communications/remote node

User **Remote device power off**

Failure **SDLC communications/remote node**
Line
Poll count exhausted

Explanation Link disconnected: inactive remote station. The server's partner station does not respond to polling either because it is down or because there is a problem with the connection.

Action Verify whether the partner station is active. If it is active, check the physical connection between the stations.

NetWare message `Link lost: remote is not responding.`

`Local DLC address: number, Remote DLC address: number`

Link error: SDLC communications/remote node

User **Remote device power off**

Failure **SDLC communication/remote node**
Line
XID poll count exhausted

Explanation Link disconnected: the exchange station ID (XID) retry limit was exceeded on the local station. The server sent an XID, which the partner station either did not receive or ignored.

Action Verify whether the partner station is active. If it is active, check the physical connection.

NetWare message `Link lost: local station's XID retry limit has been exceeded.`

`Local DLC address: number, Remote DLC address: number`

Memory threshold reached: Server configuration

Install **Memory Threshold Set too Low**
number **Memory Allocation Requests Failed**
Problem Detected by *server*

Explanation — The request for short-term memory failed because the system limit was exceeded.

Action — Ask the NetWare administrator to use the NetWare SET command to increase the setting for the Maximum Alloc Short Term Memory parameter. (Only NetWare v3.1*x* servers produce this alert.)

NetWare message — `Alloc Short Term Memory allocator requests exceeded the configuration limit.`

number `short-term memory allocation requests failed.`

Memory usage threshold reached: Loadable software module

User **Insufficient Memory**
Problem detected by *server*

Install **Memory Lower Limit Set too High**

Failure **Loadable Software Module**
Server Software Component may have Excessive Memory Requirements

Explanation — The server is running out of memory.

Action — Ask the NetWare server administrator to determine how memory is being used in the server. If memory is being used properly, add more memory. If a software component is using excessive memory or the Memory Lower Limit value is set too high, correct the problem.

NetWare message — `Cache memory allocator exceeded minimum cache buffer left limit.`

or

`Number of cache buffers is getting too low.`

Network addressing conflict: Server configuration

Install **File Server Assigned Duplicate LAN Logical Address**

serverA **Duplicates LAN Logical Address of Alert Originator**

Problem Detected by *serverB*

Explanation *serverA* on the network is claiming to be at the same address as *serverB*. This claim is occurring because two NetWare servers have been given the same IPX internal network number.

Action Assign each NetWare server a unique network address.

NetWare message `Router configuration error detected.`

name `is claiming my same internet address.`

Network addressing conflict: Server configuration

Install **File Server Assigned Duplicate LAN Logical Network Address**

Identity of Offending Server is Unknown

Problem Detected by *serverB*

Explanation Another server claims to have the same network and node addresses as this *serverB*.

Action Find out which server has the incorrect network and node addresses; then change the configuration accordingly.

NetWare message `Router configuration error detected.`

`Another router is claiming the same internet address.`

Network addressing conflict: Server configuration

Install **File Server Assigned Incorrect LAN Logical Identifier**

File Server at *node* **Assigned** *network_name_a* **-- Alert Originator Assignment on Same Network is** *network_name_b*

Problem Detected by *server*

Explanation — The NetWare BIND command that was issued to bind IPX to a LAN driver specified an incorrect network number. Other routers or servers on the network list a different network number for the cabling system.

Action — Ask the NetWare administrator to unbind the LAN driver; then bind the LAN driver with the correct network number. The correct number is specified by *network_name_b.*

NetWare message — `Router configuration error detected.`

`Router at node number1 claims network number2 should be number3.`

Open failure: Token-ring duplicate station address

Install **Token-ring duplicate station address assigned**

Explanation — Adapter detected another station with the same address during the insertion process.

Action — Ask the LAN administrator to review the link data.

NetWare message — `TOKEN-NW-233-Adapter` *number*`-Board` *number*`: The adapter detected a duplicate station during the insertion process.`

`Error code =` *code*`.`

Open failure: Token-ring fault domain

Failure **Token-ring fault domain**

Explanation Adapter detected a beaconing condition on the ring during the insertion process.

Action Ask the LAN administrator to reopen the adapter (reload the token ring driver). After the NetWare message appears, the administrator should wait 30 seconds before attempting to reopen the adapter.

NetWare message `TOKEN-NW-236-Adapter` *`number`*`-Board` *`number`*`: The ring was beaconing during the insertion process.`

`Error code =` *`code`*`.`

Open failure: Token-ring lobe

Failure **Local token-ring adapter**
Local access unit
Local lobe cables

Explanation Adapter detected a problem on its lobe during the insertion process.

Action Ask the LAN administrator to reopen the adapter (reload the token ring driver). After the NetWare message appears, the administrator should wait 30 seconds before attempting to reopen the adapter.

NetWare message `TOKEN-NW-235-Adapter` *`number`*`-Board` *`number`*`: The adapter cable was disconnected during the insertion process.`

`Error code =` *`code`*`.`

Open failure: Token-ring lobe

Failure **Local token-ring lobe**
Token-ring LAN component
Interference

Explanation An unknown error was detected during the insertion process, resulting in an incomplete insertion.

Action Ask the LAN administrator to review the link data.

NetWare message None.

Open failure: Token-ring remove command received

User **Token-ring remove adapter command received**

Explanation The adapter received a Remove Ring Station MAC frame during the insertion process.

Action Ask the LAN administrator to review the link data.

NetWare message `TOKEN-NW-234-Adapter` *number*`-board` *number*`: The adapter received a Remove MAC Frame during the insertion process.`

`Error code =` *code*`.`

Password encryption error: Application program

Install **Client Application Program Sent an Unencrypted Password to a Server Configured for Encrypted Passwords Only**

Request Originated from *node* **on** *network*

Problem Detected by *server*

Explanation An application, utility, or NetWare shell tried to log in, verify a password, or change a password without first encrypting it. The NetWare server is configured to accept only encrypted passwords.

Action Either replace the application, utility, or NetWare shell, or reconfigure the server to accept unencrypted passwords. You can ask the NetWare administrator to replace the utility with one that encrypts passwords. If the utility is a NetWare v2.*x* utility or shell, it should be replaced with a v3.*x* utility or shell.

To reconfigure the server, do one of the following:

- If the server uses NetWare 4.*x*, set the server to accept unencrypted passwords by using the SET SERVER RUNCMD (see page 3-35) with the Allow Unencrypted Passwords parameter.
- If the server uses NetWare v3.1*x*, ask the NetWare administrator to use the NetWare SET command to configure the NetWare server so that it accepts unencrypted passwords.

NetWare message `Station` *number* `attempted to use an unencrypted password call.`

Possible file allocation table corruption: Storage subsystem

Failure **Storage Subsystem**
Error Writing File Allocation Table for *volume*
Problem Detected by *server*

Explanation A write error occurred on the system. This error may have been caused by a hard disk or channel failure.

Action Check the disk drives and channel to see if a failure has occurred. Correct the failure if possible. Ask the NetWare administrator to run VREPAIR.

NetWare message `Error writing FAT table for volume server/volume.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Read Error
Server Requested Operation
Detailed Data Contains Path Information for the File – Path Shown may be Incomplete
Problem detected by *server*

Explanation The operating system was unable to read the specified file. The file is corrupted or the disk has failed.

Action Complete one of the following:

- If the file is corrupted, restore the file from a backup copy.
- If the disk has failed, check for faulty hardware components (cable, power supply, controller, or hard disk).

NetWare message `Error reading file filename.`

`Offset number data stream number.`

`Read was requested by the SERVER.`

`File path volume:path.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Read Error
Server Requested Operation
File Name Inaccessible
Problem Detected by *server*

Explanation A read error occurred on the system. This error may have been caused by a hard disk or channel failure. The data stream number is listed in the Actions area of the Recommended Action for Selected Event display and indicates the name space stream.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `File read error at offset` *number* `data stream` *number*`.`

`Error getting file name.`

`Read was requested by the SERVER.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Read Error
user **on** *station_number* **Requested Operation**
File Name Inaccessible
Problem Detected by *server*

Explanation A read error occurred on the system. This error may have been caused by a hard disk or channel failure. Some data was lost that would cause the user's applications to fail when reading data from files. The data stream number is listed in the Actions area of the Recommended Action for Selected Event display and indicates the name space stream.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `File read error at offset` *number* `data stream` *number*`.`

`Error getting file name.`

`Read was requested by user` *name* `on station` *number*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Read Error
user **on** *station_number* **Requested Operation**
Detailed Data Contains Path Information for the File - Path Shown may be Incomplete
Problem Detected by *server*

Explanation A read error occurred on the system. This error may have been caused by a hard disk or channel failure. Some data was lost that would cause the user's applications to fail when reading data from files. The data stream number is listed in the Actions area of the Recommended Action for Selected Event display and indicates the name space stream.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `Error reading file` *`filename`*`.`

`Offset` *`number`* `data stream` *`number`*`.`

`Read was requested by user` *`name`* `on station` *`number`*`.`

`File path` *`volume:path`*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Error
Server Requested Operation
Detailed Data Contains Path Information for the File - Path Shown may be Incomplete
Problem Detected by *server*

Explanation An error occurred while the file named in the Event Detail display was being written to. This error may have been caused by a hard disk or channel failure.

Action Check the disk drives and channel to see if a failure has occurred.

NetWare message `Error writing to file` *`filename`* `data stream` *`number`*`.`

`Write was requested by the SERVER.`

`File path` *`volume:path`*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Error
Server Requested Operation
File Name Inaccessible
Problem Detected by *server*

Explanation A write error occurred while data was being written to disk. A file has been lost or corrupted. The write error may be due to a hard disk or channel failure. The disk may have other problems with data integrity. The data stream number is listed in the Actions area of the Recommended Action for Selected Event display and indicates the name space stream.

Action Ask the NetWare administrator to do the following:

1. Check the system console and the history base for messages concerning disk and disk partition problems.
2. Run the disk manufacturer's diagnostic programs to determine the exact disk problem.
3. Run VREPAIR to correct minor problems.
4. Repair or replace the disk and disk controller if necessary.
5. Notify users that they may have lost data.
6. If an adequate backup was done, restore damaged files.

NetWare message `Error writing to file (file name not accessible) data stream` *`number`*`. Write was requested by the server.`

Possible file corruption: Storage subsystem

Failure	**Storage Subsystem** **File Write Error** *user* **on** *station_number* **Requested Operation** **Detailed Data Contains Path Information for the File – Path Shown may be Incomplete** **Problem Detected by** *server*
Explanation	An error occurred while the file named in the Event Detail display was being written to. The data stream number is listed in the Actions area of the Recommended Action for Selected Event display and indicates the name space stream.
Action	Check the disk drives and channel to see if a failure has occurred.

NetWare message	`Error writing to file` *`filename`* `data stream` *`number`*`.`
	`Write was requested by user` *`name`* `on station` *`number`*`.`
	`File path` *`volume:path`*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Error
user **on** *station_number* **Requested Operation**
File Name Inaccessible
Problem Detected by *server*

Explanation A write error occurred while data was being written to disk. A file has been lost or corrupted. The write error may be due to a hard disk or channel failure. The disk may have other problems with data integrity. The data stream number is listed in the Actions area of the Recommended Action for Selected Event display and indicates the name space stream.

Action Ask the NetWare administrator to do the following:

1. Check the system console and the history base for messages concerning disk and disk partition problems.
2. Run the disk manufacturer's diagnostic programs to determine the exact disk problem.
3. Run VREPAIR to correct minor problems.
4. Repair or replace the disk and disk controller if necessary.
5. Notify users that they may have lost data.
6. If an adequate backup was done, restore damaged files.

NetWare message `Error writing to file (file name not accessible) data stream` *`number`*`. Write was requested by user` *`name`* `on station` *`number`*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Pre-Read Error
Server Requested Operation
Detailed Data Contains Path Information for the File -Path Shown may be Incomplete
Problem Detected by *server*

Explanation A disk failure occurred. A write preread operation occurs when NetWare writes a partial block and subsequently needs to write the rest of the block. NetWare must first read the partial block and then write the entire block. If the read fails, a write preread error occurs.

Action Check for faulty hardware components in the disk channel (cable, power supply, controller, or hard disk).

NetWare message `File` *`filename`* `write pre-read error.`

`Offset` *`number`* `data stream` *`number`*`.`

`Read was requested by the SERVER.`

`File path` *`volume:path`*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Pre-Read Error
Server Requested Operation
File Name Inaccessible
Problem Detected by *server*

Explanation A disk failure occurred. A write preread operation occurs when NetWare writes a partial block and subsequently needs to write the rest of the block. NetWare must first read the partial block and then write the entire block. If the read fails, a write preread error occurs.

Action Check for faulty hardware components in the disk channel (cable, power supply, controller, or hard disk).

NetWare message `File write pre-read error.`

`Offset` *`number`* `data stream` *`number`*`.`

`Error getting file name.`

`Read was requested by the SERVER.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Pre-Read Error
user **on** *station_number* **Requested Operation**
Detailed Data Contains Path Information for the File -Path Shown may be Incomplete
Problem Detected by *server*

Explanation A disk failure occurred. A write preread operation occurs when NetWare writes a partial block and subsequently needs to write the rest of the block. NetWare must first read the partial block and then write the entire block. If the read fails, a write preread error occurs.

Action Check for faulty hardware components in the disk channel (cable, power supply, controller, or hard disk).

NetWare message `File` *`filename`* `write pre-read error.`

`Offset` *`number`* `data stream` *`number`*`.`

`Read was requested by user` *`name`* `on station` *`number`*`.`

`File path` *`volume:path`*`.`

Possible file corruption: Storage subsystem

Failure **Storage Subsystem**
File Write Pre-Read Error
user **on** *station_number* **Requested Operation**
File Name Inaccessible
Problem Detected by *server*

Explanation A disk failure occurred. A write preread operation occurs when NetWare writes a partial block and subsequently needs to write the rest of the block. NetWare must first read the partial block and then write the entire block. If the read fails, a write preread error occurs.

Action Check for faulty hardware components in the disk channel (cable, power supply, controller, or hard disk).

NetWare message `File write pre-read error.`

`Offset` *`number`* `data stream` *`number`*`.`

`Error getting file name.`

`Read was requested by user` *`name`* `on station` *`number`*`.`

Record lock threshold reached: Application program

Install **Record Lock Threshold for Workstations Set too Low Problem Detected by** *server*

Failure **Application Program Workstation Record Lock Threshold Reached** *number* **Lock Requests Failed**

Explanation The number of record locks on the server has exceeded the Maximum Record Locks Per Connection system parameter. The default value is 20000. Applications that request record locks do not function properly until record locks are released by other applications.

Action If the server is a NetWare v3.1*x* server, ask the NetWare administrator to increase the setting for the Maximum Record Locks Per Connection parameter.

If the server is a NetWare 4.*x* server, use the GET SERVER RUNCMD (see page 3-22) to display the Maximum Record Locks Per Connection parameter. Use the SET SERVER RUNCMD (see page 3-35) to change the Maximum Record Locks Per Connection parameter.

NetWare message `Station` *number* `record lock threshold exceeded.`

`Total violations` *number*`.`

Record lock threshold reached: Application program

Install **System Record Lock Threshold Set too Low**
Problem Detected by *server*

Failure **Application Program**
System Record Lock Threshold Reached
number **Lock Requests Failed**

Explanation — The number of record locks on the server has exceeded the Maximum Record Locks parameter. The default value is 20000. Applications that lock records will not function properly.

Action — If the server is a NetWare v3.1*x* server, ask the NetWare administrator to increase the setting for the Maximum Record Locks parameter.

If the server is a NetWare 4.*x* server, use the GET SERVER RUNCMD (see page 3-22) to display the Maximum Record Locks parameter. Use the SET SERVER RUNCMD (see page 3-35) to change the Maximum Record Locks parameter.

NetWare message — `System record lock threshold exceeded.`

`number record lock requests failed.`

Remove adapter command received: LAN manager operator

User **Token-ring remove adapter command received**

Explanation — The reporting station's adapter received a Remove Adapter command from a LAN manager and, as a result, left the LAN.

Action — Contact the LAN administrator and report the adapter number and error code, which appear in the Actions area of the Recommended Action for Selected Event display.

NetWare message — `TOKEN-NW-242-Adapter number-board number: The Remove MAC Frame process shut down the adapter.`

`Ring status = code.`

Required software attempted termination: Application program

Failure **Application Program**
Problem Detected by *server*

Explanation An error occurred while a module was being unloaded. The module is still loaded. The error may occur when another module references public symbols exported by the module being unloaded.

Action Unload the module that is using the public symbols; then unload this module.

NetWare message `Error unloading killed loadable module`

Resource nearing capacity: Storage subsystem

User **Insufficient Storage Media Space**
Insufficient Storage Media Space Available for *volume*
Problem Detected by *server*

Explanation The volume is almost out of disk space.

Action Ask the NetWare administrator to delete unnecessary files from the volume or add more disk space to the volume.

When the server is running NetWare 4.*x*, you can manage disk space usage and reporting with the following SET SERVER RUNCMD parameters:

- Immediate Purge of Deleted Files
- Volume Low Warn All Users
- Volume Low Warning Threshold

NetWare message `Volume server/volume almost out of disk space.`

Software program error: LAN LLC communications

Failure **Communications program in remote node I-field receive when not permitted**

Explanation Link disconnected: an information field was sent at the wrong time by a remote station. A partner station sent an information field when it was not permitted to do so. The server sent a frame reject.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote station sent an Information field at the wrong time.`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure **Communications program in remote node Invalid N(r) received**

Explanation Link disconnected: the number of frames received (*Nr*) from the remote station does not match the number of frames sent *(Ns*). There is a discrepancy between the number of frames the server received and the number of frames the partner station sent.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote station sent an invalid N(r).`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure	**Communications program in remote node** **Invalid/unsupported command or response received**
Explanation	Link disconnected: an invalid command or response was sent by the remote station. A partner station sent a command or response that is not supported by the server. The server sent a frame reject.
Action	Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.
NetWare message	`Link lost: remote station sent an invalid or unsupported frame.` `SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure	**Communications program in remote node** **Received I-field exceeded maximum length**
Explanation	Link disconnected: too long an information field was sent by a remote station. A partner station sent an information field that was larger than the frame size specified for NetWare for SAA.
Action	Ensure that NetWare for SAA's frame size matches the frame size specified on the partner station.
NetWare message	None.

Software program error: LAN LLC communications

Failure **Communications program in remote node**
SABME received while in ABME

Explanation Link disconnected: link was in Data Transfer mode when a Set Asynchronous Balanced Mode Extended (SABME) request was sent by a remote station. The server's partner station requested SABME while data was already being sent in that mode.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote sent SABME while in Data Transfer Mode.`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure **Software program**
Frame reject received: I-field sent when not permitted

Explanation Link disconnected: an information field was sent at the wrong time by the local station. The server sent an information field when it was not permitted to do so. The server's partner station sent a frame reject.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: local station sent an Information field at the wrong time.`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure **Software program**

Frame reject received: invalid N(r) sent

Explanation Link disconnected: the number of frames received (*Nr*) from the local station does not match the number of frames sent (*Ns*). There is a discrepancy between the number of frames the server's partner station received and the number of frames the server sent.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: local station sent an invalid N(r).`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure **Software program**

Frame reject received: Invalid/unsupported command or response sent

Explanation Link disconnected: an invalid command or response was sent by the local station. The server sent a command or response that is not supported by the server's partner station. The partner station sent a frame reject.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: local station sent an invalid or unsupported frame.`

`SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: LAN LLC communications

Failure	**Software program** **Frame reject received: maximum I-field length exceeded**
Explanation	Link disconnected: too long an information field was sent by the local station. The server sent an information field that was larger than the frame size specified on the server's partner station.
Action	Ensure that the NetWare for SAA frame size matches the frame size specified on the partner station.
NetWare message	`Link lost: local station sent too long an I frame.` `SAddr: number, SSAP: number, DAddr: number, DSAP: number`

Software program error: SDLC communications

Failure	**Communications program in remote node** **I-field received when not permitted**
Explanation	Link disconnected: an information field was sent at the wrong time by the local station. The server sent an information field when it was not permitted to do so. The server's partner station sent a frame reject.
Action	Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.
NetWare message	`Link lost: local station sent an Information field at the wrong time.` `Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Communications program in remote node Invalid N(r) received**

Explanation Link disconnected: the number of frames received (*Nr*) from a remote station does not match the number of frames sent (*Ns*). There is a discrepancy between the number of frames the server received and the number of frames the server's partner station sent.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: local station sent an invalid N(r).`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Communications program in remote node Invalid/unsupported command or response received**

Explanation Link disconnected: an invalid command or response was sent by the local station. The server sent a command or response that is not supported by the server's partner station. The partner station sent a frame reject.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote station sent an invalid or unsupported frame.`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Communications program in remote node Receive window size exceeded**

Explanation Link disconnected: the receive window size was exceeded because a remote station sent too many information (I) frames. A server's partner station sent more information (I) frames than specified by the receive window size.

Action Check the remote station's window size. Reconfigure the receive window size as discussed in the remote station's documentation.

NetWare message `Link lost: local station receive window size is exceeded.`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Communications program in remote node SNRM received while in NRM**

Explanation Link disconnected: a Set Normal Response Mode (SNRM) request was sent by a remote station while the station was already in use. The server's partner station requested SNRM while data was already being sent in normal response mode.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote sent an unexpected SNRM frame.`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Software program**

Frame reject received: I-field sent when not permitted

Explanation Link disconnected: an information field was sent at the wrong time by a remote station. The server's partner station sent an information field when it was not permitted to do so. The server sent a frame reject.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote station sent an Information field at the wrong time.`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Software program**

Frame reject received:invalid N(r) sent

Explanation Link disconnected: the number of frames received (*Nr*) from the local station does not match the number of frames sent (*Ns*). There is a discrepancy between the number of frames the server's partner station received and the number of frames the server sent.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: remote station sent an invalid N(r).`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Software program**

Frame reject received: invalid/unsupported command or response sent

Explanation Link disconnected: an invalid command or response was sent by a remote station. The server's partner station sent a command or response that is not supported by the server. The server sent a frame reject.

Action Wait for the communication service to reestablish the link. If the problem persists, contact the SNA network administrator.

NetWare message `Link lost: local station sent an invalid or unsupported frame.`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Software program**

Frame reject received: maximum I-field length exceeded

Explanation Link disconnected: too long an information field was sent by a remote station. The server's partner station sent an information field that was larger than the frame size specified for NetWare for SAA.

Action Ensure that the NetWare for SAA frame size matches the frame size specified on the partner station.

NetWare message `Link lost: remote station sent too long an I frame.`

`Local DLC address: number, Remote DLC address: number`

Software program error: SDLC communications

Failure **Software program**
Frame reject received: no reason specified

Explanation Link disconnected: a remote station rejected a frame without including information about why it rejected the frame. The remote station is the server's partner station.

Action Contact the SNA network administrator.

NetWare message `Link lost: A Frame Reject packet was received with no reason specified.`

`Local DLC address: number, Remote DLC.`

`address: number`

System file unusable: Storage subsystem

Failure **Storage Subsystem**
Unable to Open/Create VOL$LOG.ERR on *volume*
Problem Detected by *server*

Explanation The volume's error file, VOL$LOG.ERR, could not be created because either the volume was out of room or a disk error occurred.

Action Make sure the volume has enough available space. Add more disk space and delete unused and unnecessary files.

NetWare message `Unable to create VOL$LOG.ERR on volume.`

System file unusable: Storage subsystem

Failure **Storage Subsystem**
Unable to Write to VOL$LOG.ERR on *volume*
Problem Detected by *server*

Explanation The system was unable to write to the volume's error file because of a disk failure.

Action Contact the NetWare server administrator. Additional messages indicating what went wrong should appear on the system console. Correct the problem as suggested by those messages. Check for disk integrity and fix any disk problems you find.

NetWare message `Unable to write to VOL$LOG.ERR on volume.`

Token-ring inoperative: Token-ring fault domain

Failure	**Token-ring fault domain**
Explanation	Ring has been beaconing and is inoperative.
Action	Ask the LAN administrator to review the link data.
NetWare message	None.

Unauthorized access attempted: File server user

User	**Unauthorized Access Attempted on** *account* **Request Originated from** *node* **on** *network* **Problem Detected by** *server*
Explanation	This notice appears on the NetWare server console and in the error log that can be viewed in SYSCON (a NetWare server utility). A user repeatedly entered an invalid password in an attempt to log in to the NetWare server. The number of invalid passwords exceeded the Incorrect Login Attempt limit allowed for the period of time specified in the NetWare Bad Login Count Retention Time parameter. The user's account has been disabled for the time specified by the NetWare Length of Account Lockout parameter.
Action	The NetWare administrator must run SYSCON to clear the lockout, or the user must wait the specified lockout time.
NetWare message	Intruder lock-out on account *username* [*number:number*].

Wire fault: Token-ring lobe

Failure **Local access unit**
Local lobe cables
Local token-ring adapter

Explanation Wire-fault condition detected on the ring.

Action Ask the LAN administrator to check the cable connections.

NetWare message `TOKEN-NW-240-Adapter` *number*`-board` *number*`: Cable is disconnected at the MAU. Board is resetting.`

`Ring status =` *code*`.`

or

`TOKEN-NW-239-Adapter` *number*`-board` *number*`:`

`Cable is disconnected at the board. Board is resetting.`

`Ring status =` *code*`.`

X.25 Error: Logical Link Control

Install **Configuration error**

Failure **Received I-field exceeded maximum length**

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an information (I) field that was too long.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: remote station sent too long an I frame.`

`SAddr:` *number*`; DAddr:` *number*

`LCN:` *number*

X.25 Error: Logical Link Control

Failure **X.25 Communications Error**

Frame reject received: invalid/unsupported command or response sent

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an invalid or unknown control field.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: local station sent an invalid or unknown Control field.`

`SAddr: number; DAddr: number`

`LCN: number`

X.25 Error: Logical Link Control

Failure **X.25 Communications Error**

Frame reject received: I-field sent when not permitted

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an invalid information (I) field.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: local station sent an invalid I frame.`

`SAddr: number; DAddr: number`

`LCN: number`

X.25 Error: Logical Link Control

Install **Configuration Error**

Failure **X.25 Communications Error**

Frame reject received: Maximum I-Field Length Exceeded

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an information (I) field that was too long.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: local station sent too long an I frame.`

`SAddr: number; DAddr: number`

`LCN: number`

X.25 Error: Logical Link Control

Failure **X.25 Communications Error**

Frame reject received: Invalid N(r) sent

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an invalid number of frames received (*Nr*) value.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: local station sent an invalid N(r).`

`SAddr: number; DAddr: number`

`LCN: number`

X.25 Error: Logical Link Control

Failure **X.25 Communications Error**
Invalid/Unsupported command or response received

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an invalid or unknown control field.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: remote station sent an invalid or unknown Control field.`

`SAddr: number; DAddr: number`

`LCN: number`

X.25 Error: Logical Link Control

Failure **X.25 Communications Error**
I-Field received when not permitted

Explanation The local station sent a frame reject (FRMR) response after it received a protocol data unit (PDU) with an invalid information (I) field.

Action If the problem occurs repeatedly, contact the X.25 network information service.

NetWare message `Link lost: remote station sent an invalid I frame.`

`SAddr: number; DAddr: number`

`LCN: number`

RUNCMD Response Error Messages

In addition to alert messages, NetWare for SAA and NMA for NetView return their own RUNCMD response messages to the NetView host when they receive RUNCMDs that they cannot carry out.

Cannot execute this NetView RunCmd

Explanation The RUNCMD you specified has been disabled in the NVCMDS.DB RUNCMD filtering file of the target NetWare for SAA or NMA for NetView server. See the appendix titled "Using NetView RUNCMD Filtering" in the *NetWare for SAA v1.3 Rev. B Administration Guide* or in the *NetWare Management Agent for NetView Administration Guide*.

Action If you want to enable this RUNCMD on the target NetWare for SAA or NMA for NetView server, remove the RUNCMD from the NVCMDS.DB RUNCMD filtering file on that server. Then down and restart the Communication Executive or NMA for NetView.

Cannot unload as status is running

Explanation The CSSTATUS utility is running; therefore, NetWare for SAA or NMA for NetView cannot unload the target service profile or NLM specified in your UNLOAD RUNCMD. The service profile or NLM is still active.

Action Note this message and contact your NetWare administrator or your authorized Novell reseller.

Directory name not allowed in Query File command

Explanation — You specified a directory name rather than a filename for the PATH parameter of your QUERY FILE RUNCMD. For information on individual files, you must include the filename in the QUERY FILE RUNCMD. For more information on issuing QUERY RUNCMDs, see Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the QUERY FILE RUNCMD with the filename specified along with the pathname in the PATH parameter.

Error response from SSA

Explanation — An internal error has caused the SAA Security Agent on the NetWare for SAA or NMA for NetView server to reject the RUNCMD.

Action — Reissue the RUNCMD. If this message recurs, note the error message, and contact your NetWare administrator or your authorized Novell reseller.

Extra keyword entered

Explanation — You specified an extra parameter in your RUNCMD. The parameters for your RUNCMD parameters are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with valid parameters.

Extra keyword value entered

Explanation — You specified an extra value for a parameter in your RUNCMD. The number of acceptable values for your RUNCMD parameters are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with valid parameters and values.

Filename not allowed in Query Dir command

Explanation — You included a filename in the PATH parameter of your QUERY DIRECTORY RUNCMD. For information on individual files, you must issue the QUERY FILE RUNCMD. For more information on issuing Query RUNCMDs, see Chapter 3, "Sending NetWare RUNCMDs."

Action — Consider the information you want to query for. To query for directory information, reissue the QUERY DIRECTORY RUNCMD without any filename specified in the PATH parameter. To query for file information, issue the QUERY FILE RUNCMD.

Illegal char *bad_char* in rights *char_string*

Explanation — You included an illegal character in the RIGHTS parameter of an ADD RUNCMD. Acceptable characters for this parameter include A, C, E, F, M, R, S, W, or ALL (for Access Control, Create, Erase, File Scan, Modify, Read, Supervisory, Write, or all privileges). For more information on rights specified by the ADD RUNCMDs, see Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with valid RIGHTS characters.

Insufficient operator privilege

Explanation — The user ID that you specified in your RUNCMD's operator ID parameter (**OP=***userID*) has insufficient privileges to issue this RUNCMD. When NetView security is enabled on the NetWare for SAA or NMA for NetView server, the RUNCMD must include a user ID with either supervisor-equivalent or file server console operator status to NetWare v3.1*x* servers and console operator status or security equivalence to the file server object on NetWare 4.*x* servers. See "RUNCMD Security" in Chapter 1 for more information.

Action — Reissue the RUNCMD with a user ID with sufficient privileges or have your current user ID assigned sufficient privileges.

Internal Queueing Error

Explanation An internal error on the NetWare for SAA or NMA for NetView server has caused your RUNCMD to be misordered.

Action Reissue the RUNCMD. If this message recurs, contact your NetWare administrator or your authorized Novell reseller.

Invalid action name

Explanation You included an invalid action name in your RUNCMD. Valid action names include Add, Broadcast, Disable, Down, Enable, Get, Load, Query, Remove, Set, and Unload.

Action Reissue the RUNCMD with a valid action name.

Invalid attribute name

Explanation You included an invalid attribute name in your RUNCMD. Valid attribute names are listed for your RUNCMD in Chapter 3, “Sending NetWare RUNCMDs.”

Action Reissue the RUNCMD with a valid attribute name.

Invalid Char in Date

Explanation You included a non-numeric character when specifying a date in your RUNCMD. Dates are specified by numbers in month/date/year format. Valid month indicators include numbers 1 through 12. Valid day indicators include numbers 1 through 31. Valid year indicators include numbers 80 through 99 (for 1980 through 1999) and 00 through 35 (for 2000 through 2035).

Action Reissue your RUNCMD with a valid month/date/year specification.

Invalid command line syntax

Explanation Your RUNCMD includes an unspecified syntax error. The syntax for your RUNCMD is listed in Chapter 3, “Sending NetWare RUNCMDs.”

Action Reissue the RUNCMD with proper syntax.

Invalid command qualifier

Explanation: You included an invalid qualifier in your RUNCMD. Valid command qualifiers are listed for your RUNCMD in Chapter 3, "Sending NetWare RUNCMDs."

Action: Reissue the RUNCMD with a valid command qualifier.

Invalid Day in Date

Explanation: You included an invalid day identifier when specifying a date in your RUNCMD. Dates are specified by numbers in month/date/year format. Valid day identifiers include numbers 1 through 31.

Action: Reissue your RUNCMD with a valid month/date/year specification.

Invalid Hour in Time

Explanation: You included an invalid hour identifier when specifying a time in your RUNCMD. Times are specified by numbers in hour:minute:second format. Valid hour identifiers include numbers 1 through 24 (for 1 a.m. through 12 a.m.).

Action: Reissue your RUNCMD with a valid hour:minute:second specification.

Invalid minute in Time

Explanation: You included an invalid minute identifier when specifying a time in your RUNCMD. Times are specified by numbers in hour:minute:second format. Valid minute identifiers include numbers 00 through 59.

Action: Reissue your RUNCMD with a valid hour:minute:second specification.

Invalid Month in Date

Explanation: You included an invalid month identifier when specifying a date in your RUNCMD. Dates are specified by numbers in month/date/year format. Valid month identifiers include numbers 1 through 12.

Action: Reissue your RUNCMD with a valid month/date/year specification.

Invalid non numeric character *char* in *numeric_string*

Explanation While specifying a numeric value for a RUNCMD parameter, you entered an invalid non-numeric character in the numeric string.

Action Reissue the RUNCMD using a valid character in the specified numeric string.

Invalid operator name

Explanation You included an invalid user ID with the operator ID parameter (**OP=***userID*) in your RUNCMD. The operator ID parameter identifies the user ID of the person issuing the RUNCMD for security purposes. For more information, see "RUNCMD Security" in Chapter 3, "Sending NetWare RUNCMDs."

Action Reissue the RUNCMD with a valid user ID specified for the operator ID parameter.

Invalid Path=*path*

Explanation You included an invalid directory path in your RUNCMD.

Action Reissue the RUNCMD with a valid directory path specified.

Invalid resource class name

Explanation You included an invalid resource name in your RUNCMD. Valid command resource types include Communication Service (CS), Directory, File, IPX, NLM, Server, SPX, TTS, User, and Volume.

Action Reissue the RUNCMD with a valid resource name.

Invalid resource qualifier

Explanation You included an invalid resource qualifier in your RUNCMD.Valid resource qualifiers are listed for your RUNCMD in Chapter 3, "Sending NetWare RUNCMDs."

Action Reissue the RUNCMD with a valid resource qualifier.

Invalid UserName=*uname*

Explanation You included an invalid username parameter value (**UserName=***uname*) in the resource qualifier or command qualifier portion of your RUNCMD.

Action Reissue the RUNCMD with a valid username.

Invalid VolName=*vname*

Explanation You specified an invalid volume name in your RUNCMD.

Action Reissue the RUNCMD with a valid volume name.

Invalid Year in Date

Explanation You included an invalid year identifier when specifying a date in your RUNCMD. Dates are specified by numbers in month/date/year format. Valid year identifiers include numbers 80 through 99 (for 1980 through 1999) and 00 through 35 (for 2000 through 2035).

Action Reissue your RUNCMD with a valid month/date/year specification.

Invalid Year, Year must be between 1980 and 2035

Explanation You included an invalid year identifier when specifying a date in your RUNCMD. Dates are specified by numbers in month/date/year format. Valid year identifiers include numbers 80 through 99 (for 1980 through 1999) and 00 through 35 (for 2000 through 2035).

Action Reissue your RUNCMD with a valid month/date/year specification.

load CS command failed

Explanation NetWare for SAA could not carry out a LOAD CS RUNCMD. Either the target server is out of memory, the NetWare for SAA NLM is not present, or the specified SAA profile is invalid.

Action Reissue the RUNCMD with a valid service profile, or request the LAN administrator to confirm that NetWare for SAA is loaded and to check memory conditions on the server.

load failed, Service already loaded

Explanation The target SAA profile you specified for the LOAD CS RUNCMD is already loaded.

Action If you want to load a second SAA profile, you may reissue the LOAD CS RUNCMD with another profile specified. You may load up to two profiles using NetWare for SAA v1.3 or later.

load failed, Service Profile is unknown

Explanation NetWare for SAA could not carry out a LOAD CS RUNCMD. The target service profile you specified for this command is not configured.

Action Reissue the LOAD CS RUNCMD specifying a target service profile that exists, or run CSCON at the NetWare for SAA system console to create the service profile that you need.

load failed, Unable to open Service profile

Explanation NetWare for SAA could not carry out a LOAD CS RUNCMD. The target SAA profile you specified for this command may not be present.

Action Run CSCON at a LAN workstation to confirm the presence of this service profile on the NetWare for SAA server.

load failed, Unable to read Service profile

Explanation An internal error prevents NetWare for SAA from reading the service profile that you specified in the LOAD CS RUNCMD.

Action Run CSCON at a LAN workstation to create a new service profile on the NetWare for SAA server. If this message persists, contact your authorized Novell reseller.

Memory allocation error

Explanation The NetWare for SAA or NMA for NetView server to which your RUNCMD is routed lacks sufficient available memory to process your RUNCMD.

Action Reissue the RUNCMD when memory is available, or have memory added to the target NetWare for SAA or NMA for NetView server.

Missing action name

Explanation — You omitted the action name from your RUNCMD. Valid action names include Add, Broadcast, Disable, Down, Enable, Get, Load, Query, Remove, Set, and Unload.

Action — Reissue the RUNCMD with a valid action name.

Missing attribute parameter

Explanation — You omitted a required attribute parameter from your RUNCMD. Valid attribute parameters for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid attribute parameter.

Missing command qualifier parameter

Explanation — You omitted a required command qualifier parameter from your RUNCMD. Valid command qualifiers for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid command qualifier.

Missing mandatory attribute

Explanation — You omitted a required attribute parameter from your RUNCMD. Valid attribute parameters for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid attribute parameter.

Missing mandatory command qualifier

Explanation — You omitted a required command qualifier parameter from your RUNCMD. Valid command qualifiers for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid command qualifier.

Missing mandatory parameters

Explanation — You omitted a required attribute parameter from your RUNCMD. Valid attribute parameters for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid attribute parameter.

Missing mandatory resource qualifier

Explanation — You omitted a required resource qualifier parameter from your RUNCMD. Valid resource qualifiers for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid resource qualifier.

Missing operator name

Explanation — You omitted the operator ID parameter (**OP=***userID*) from the RUNCMD. The operator ID parameter identifies the user ID of the person issuing the RUNCMD for security purposes. For more information, see "RUNCMD Security" in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid operator ID parameter included.

Missing resource class name

Explanation — You omitted a resource name from your RUNCMD. Valid command resource names include Communication Service (CS), Directory, File, IPX, NLM, Server, SPX, TTS, User, and Volume.

Action — Reissue the RUNCMD with a valid resource name.

Missing resource qualifier parameter

Explanation — You omitted a required resource qualifier parameter from your RUNCMD. Valid resource qualifiers for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with a valid resource qualifier.

Missing second double quote character

Explanation — You omitted a double quote character (") from the end of a value that needed to be enclosed in double quotes. Values in your RUNCMD that require double quotes are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with the second double quote character.

Missing server name

Explanation — You omitted the server parameter (**SName=***server_name*) from your RUNCMD. For more information on the server parameter, see "RUNCMD Routing" in Chapter 3, "Sending NetWare RUNCMDs."

Action — Reissue the RUNCMD with the server parameter included.

NetView Command forwarding disabled

Explanation — NMA for NetView cannot forward your RUNCMD to the server specified in your server name (**SName=***server_name*) parameter. RUNCMDs can be forwarded only by NetWare for SAA servers with direct host connections to the NetWare host.

Action — None.

NetView Command forwarding retry count exceeded

Explanation — The NetWare for SAA collection point server tried and failed to forward a RUNCMD to an end point server for processing. The number of attempts it made and failed at is equal to the number specified by the RETRYLIMIT parameter in the NetWare for SAA server's NVCMDS.DB file. If this parameter is not specified, the default value is 2 retries. For more information on the RETRYLIMIT parameter, see "Configuring RUNCMD Retries" in Chapter 12 of the *NetWare for SAA v1.3 Rev. B Administration Guide*.

Action — Reissue the RUNCMD. Make sure the target end point server is up and configured to receive RUNCMDs. If you want to configure the collection point server to make more attempts at forwarding a RUNCMD, edit its NVCMDS.DB file, then down and restart the Communication Executive.

NetView Command processing disabled

Explanation — NetView RUNCMD processing was disabled on the NetWare for SAA or NMA for NetView server.

Action — Run CSCON at a LAN workstation or NVCONFIG at the NMA for NetView server. Bring up the NetView management menu and set the Process NetView commands option to *Yes*.

NetView Participation disabled

Explanation NetView support is disabled on the NetWare for SAA collection point server.

Action To enable NetView support, run CSCON on the NetWare for SAA collection point server and in the Network Management menu, set the NetView Management option to *Yes*.

NLM *nlm_name* is already loaded

Explanation You specified an NLM that is already loaded in your LOAD RUNCMD.

Action None.

No Rights for UserName=*uname* to Path=*path*

Explanation The username you specified for this RUNCMD does not have rights to the specified pathname.

Action Request the LAN administrator to run SYSCON and assign trustee rights to the specified user for the specified path, or specify a username with the appropriate rights to the file or directory specified in the path.

No Rights to Disable Login Status

Explanation You have insufficient privileges to disable login status on the target server. To execute DISABLE RUNCMDs, you require a user ID with at least supervisory rights on NetWare v3.1*x* target servers and security equivalence with the file server object on NetWare 4.*x* target servers.

Action Contact your NetWare administrator to obtain sufficient rights on the target server.

No Rights to Down File Server

Explanation You issued a DOWN SERVER RUNCMD to a server on which you do not have sufficient privileges. To down a NetWare v3.1*x* server, you must have supervisory rights. To down a NetWare 4.*x* server, you require security equivalence to the file server object.

Action Contact your NetWare administrator to obtain sufficient rights on the target server.

No Rights to Enable Login Status

Explanation — You have insufficient privileges to enable login status on the target server. To execute ENABLE RUNCMDs, you require a user ID with at least supervisory rights on NetWare v3.1*x* target servers and security equivalence with the file server object on NetWare 4.*x* target servers.

Action — Contact your NetWare administrator to obtain sufficient rights on the target server.

No Rights to read Login Status

Explanation — You have insufficient privileges to query for login status on the target server. To execute QUERY RUNCMDs, you require a user ID with at least console operator status on the target server.

Action — Contact your NetWare administrator to obtain console operator rights or higher on the target server.

Open Files, Did not down File Server

Explanation — You issued a DOWN SERVER RUNCMD with the command qualifier set to **`Opts=0`**. Because the target server has NLMs still loaded, NetWare for SAA or NMA for NetView did not carry out the DOWN SERVER RUNCMD.

Action — If you want to save any changes made to the open files, unload the still-loaded NLMs and reissue the DOWN SERVER RUNCMD; otherwise, simply reissue the DOWN SERVER RUNCMD with the command qualifier set to **`Opts=1`**.

Server Bindery not accessible

Explanation — An internal error has made the target server's bindery inaccessible.

Action — Note this message and contact your NetWare administrator or your authorized Novell reseller.

Server name must follow application id

Explanation — You specified the server name parameter (**SName=***server_name*) before the application name parameter (**APPL=NetWare**) in the routing portion of your RUNCMD.

Action — Reissue the RUNCMD with the server name specified after the application name.

Server out of memory

Explanation — The NetWare for SAA or NMA for NetView server to which your RUNCMD is routed lacks sufficient available memory to process your RUNCMD.

Action — Reissue the RUNCMD when memory is available, or have memory added to the target NetWare for SAA or NMA for NetView server.

The configured host link is not available

Explanation — The SAA service profile that supports the current host connection has not been loaded on the target NetWare for SAA server.

Action — Request the LAN administrator to load the correct SAA service profile on the target NetWare for SAA server and reissue the RUNCMD.

Transaction Tracking Disable Failed

Explanation — An internal error prevents NetWare for SAA or NMA for NetView from carrying out the DISABLE TTS RUNCMD on the target server.

Action — Note this message and contact your NetWare administrator or your authorized Novell reseller.

Transaction Tracking Enable Failed

Explanation — An internal error prevents NetWare for SAA or NMA for NetView from carrying out the ENABLE TTS RUNCMD on the target server.

Action — Note this message and contact your NetWare administrator or your authorized Novell reseller.

Unable to Add Trustee for Path=*path* UserName=*uname* Code=*code*

Explanation NetWare for SAA or NMA for NetView is unable to carry out your ADD TRUSTEE RUNCMD for the specified username and pathname because of the condition indicated by the NetWare system error code. For more information on NetWare error codes, see the appendix titled either "Error Code Table" or "Error Codes" in your NetWare *System Messages* guide.

Action Contact your NetWare administrator to remedy the condition on the target server indicated by the error code.

Unable to get Server name

Explanation You omitted the server parameter (**SName=***server_name*) from your RUNCMD. For more information on the server parameter, see "RUNCMD Routing" in Chapter 3, "Sending NetWare RUNCMDs."

Action Reissue the RUNCMD with the server parameter included.

Unable to load *nlm_name*

Explanation NetWare for SAA or NMA for NetView is unable to load the specified NLM. Possible reasons include: You may have specified a non-existent NLM name in your LOAD RUNCMD; the NLM you specified may require other NLMs loaded before it; the server may lack sufficient available memory to load another NLM.

Action Possible solutions include reissuing the RUNCMD with the correct NLM name, loading any prerequisite NLMs beforehand, or installing sufficient memory in the server.

Unable to Remove Trustee for Path=*path* UserName=*uname* Code=*code*

Explanation NetWare for SAA or NMA for NetView is unable to carry out your REMOVE TRUSTEE RUNCMD for the specified username and pathname because of the condition indicated by the NetWare system error code. For more information on NetWare error codes, see the appendix titled either "Error Code Table" or "Error Codes" in your NetWare *System Messages* guide.

Action Contact your NetWare administrator to remedy the condition on the target server indicated by the error code.

Unable to Set Attribute for Path=*path* Code=*code*

Explanation NetWare for SAA or NMA for NetView was unable to carry out your Set File or Set Directory RUNCMD for the specified pathname.

Action Note this message and contact your NetWare administrator or your authorized Novell reseller.

Unable to Set User Context UserName=*uname*

Explanation You specified either an invalid username or a username with insufficient privileges for this RUNCMD's USERNAME parameter.

Action Reissue the RUNCMD with a valid username or request the LAN administrator to assign the specified username sufficient privileges.

Unable to unload *nlm_name*

Explanation You specified a nonexistent NLM name in your UNLOAD RUNCMD or the specified NLM requires other NLMs unloaded before it.

Action Reissue the RUNCMD with the correct NLM name or unload any NLMs that need to be unloaded before unloading this one.

Unknown command line parameter

Explanation You included an unknown parameter in your RUNCMD. Valid parameters for your RUNCMD are listed in Chapter 3, "Sending NetWare RUNCMDs."

Action Reissue the RUNCMD with only the parameters listed for it.

Unload CS command failed

Explanation NetWare for SAA could not carry out an UNLOAD CS RUNCMD, possibly because the target SAA profile was not loaded to begin with.

Action None.

Unload failed, Service is not active

Explanation NetWare for SAA could not carry out an UNLOAD CS RUNCMD, possibly because the target SAA profile was not loaded to begin with.

Action None.

UserName=*uname* does not exist

Explanation — You included a nonexistent username parameter value (**UserName=***uname*) in the resource qualifier or command qualifier portion of your RUNCMD.

Action — Reissue the RUNCMD with a username that exists for the target server.

VolName=*vname* does not exist

Explanation — You included a nonexistent volume name parameter value (**VolName=***vname*) in the resource qualifier or command qualifier portion of your RUNCMD.

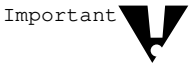
Action — Reissue the RUNCMD with a volume name that exists on the target server

chapter 3

Sending NetWare RUNCMDs

This chapter describes how to send RUNCMDs from the NetView Network Communications Control Facility (NCCF) to v1.2-or-later NetWare for SAA and NMA for NetView servers.

NetWare for SAA and NMA for NetView support RUNCMDs for the operating system and file services features of NetWare v3.11 and later servers.



This chapter does not describe how to send RUNCMDs to an application that has been designed to use the NetWare Open NetView interface. For information on sending RUNCMDs to this type of application, refer to the manual for that application.

How to Send RUNCMDs

NetWare servers support the RUNCMD feature in NetView NCCF. The format for a RUNCMD sent to a NetWare server is

```
RUNCMD SP=service_point_name, APPL=NETWARE,
  SName=server_name [OP=userid] action
  resource [attribute_parameter]
  [resource_qualifier] [command_qualifier]
```

Table 3-1 divides the NetWare RUNCMD into three components.

Table 3-1
NetWare RUNCMD Components

RUNCMD Components	RUNCMD Parameters
RUNCMD routing	**RUNCMD SP=***service_point_name*, **APPL=NETWARE, SName=***server_name*
RUNCMD security	**OP=***userid*
Server RUNCMD parameters for NetWare v3.1*x* and NetWare 4.*x* servers	*action* *resource* *attribute_parameter* *resource_qualifier* *command_qualifier*

The following sections describe how to route RUNCMDs to the destination server, comply with NetWare security, and assemble server command parameters for NetWare v3.1*x* and NetWare 4.*x* servers.

Note

The NetWare RUNCMD format is a combination of NetView RUNCMD parameters and parameters for NetWare. For additional information on NetView RUNCMD parameters and options, see the *NetView Operation* (SC31-6019) manual from IBM.

Important

The NCCF message “No NetView Response received” indicates that an end point server did not respond to your RUNCMD. This message is generated by the collection point server.

RUNCMD Routing

The format for the routing portion of a NetWare RUNCMD is

```
RUNCMD SP=service_point_name, APPL=NETWARE,
  SName=server_name
```

Table 3-2 shows how to address the NetWare RUNCMD routing parameters for the different types of NetWare servers.

Table 3-2
RUNCMD Routing Parameter Settings

Destination Server Type	Parameter Setting for SP=*service_point_name*	Parameter Setting for SName=*server_name*
End point server	Enter the PU name of a collection point server.	Enter the name of the end point server.
Collection point server or stand-alone server	Enter the PU name of the collection point server or the standalone server.	Enter the name of the collection point server or the standalone server.

RUNCMD Security

The format for the security portion of a NetWare RUNCMD is

[OP=*userid***]**

This RUNCMD parameter is optional when the NetView security option is disabled on the destination server.

When the security feature is enabled on the destination NetWare server, you must include this parameter and replace *userid* with a valid NetWare user ID. If your NetWare user ID has been designated as a file server console operator, you are restricted to sending NetWare QUERY RUNCMDs, which request information from the file server. If your NetWare user ID has supervisor-equivalent privileges, you can use all the RUNCMDs supported by the server.

Important

When NetView security is enabled at the NetWare server, a RUNCMD must include a user ID (other than SUPERVISOR) with either supervisor-equivalent privileges or file server console operator status. Although the SUPERVISOR user ID has supervisor-equivalent privileges, the server rejects RUNCMDs that include the SUPERVISOR user ID.

The RUNCMD security feature can be enabled or disabled in the NetWare for SAA server or NMA for NetView 1.3B server configuration programs. In earlier versions of NMA for NetView, the RUNCMD security feature is always enabled.

Server RUNCMD Parameters

The format of the server RUNCMD parameters portion of a NetWare RUNCMD is

```
action resource [attribute_parameter]
  [resource_qualifier] [command_qualifier]
```

Table 3-3 lists and describes each of the server RUNCMD parameters for NetWare for SAA and NMA for NetView servers.

Table 3-3
Server RUNCMD Parameters

Parameter	Description
action	The *action* parameter specifies what action is to be executed on the NetWare server. Valid actions are Add Broadcast Disable Down Enable Get Load Query Remove Set Unload Table 3-4, beginning on page 3-8, alphabetically lists the server RUNCMD parameters by the action parameter. “NetWare RUNCMD Descriptions,” beginning on page 3-16, describes the function and format of each group of server RUNCMD parameters.

Table 3-3 ***continued***
Server RUNCMD Parameters

Parameter	Description
resource	The *resource* parameter specifies the server component that the RUNCMD action affects. Valid RUNCMD resources include Communication service (CS) Directory File IPX NLM Server SPX TTS User Volume Table 3-5, beginning on page 3-12, alphabetically lists the server RUNCMD parameters by the resource parameter. “NetWare RUNCMD Descriptions” describes the function and format of each group of server RUNCMD parameters.
attribute_parameter	This parameter identifies the resource attribute the RUNCMD affects. In the QUERY SPX VERSION RUNCMD, for example, the VERSION attribute parameter identifies the SPX parameter (Version) to be returned. Some RUNCMDs do not use the attribute parameter. The tables under “RUNCMD Tables” and “NetWare RUNCMD Descriptions” list the RUNCMDs you can send to NetView. If a table lists one or more attribute parameter for a single RUNCMD, you must enter at least one attribute parameter before sending the RUNCMD.
resource_qualifier	This parameter usually names the resource to receive the action. Some RUNCMDs do not use this parameter. The tables under “RUNCMD Tables” and “NetWare RUNCMD Descriptions” list the RUNCMDs you can send to NetView. If the resource qualifier for a RUNCMD is not enclosed in brackets ([]), you must enter the resource qualifier.

Table 3-3 ***continued***
Server RUNCMD Parameters

Parameter	Description
command_qualifier	This parameter further defines the action to be taken on the resource. Some RUNCMDs do not use this parameter. The tables under "RUNCMD Tables" and "NetWare RUNCMD Descriptions" list the RUNCMDs you can send to NetView. If the command qualifier for a RUNCMD is not enclosed in brackets ([]), you must enter the command qualifier.

RUNCMD Examples

The following is a sample RUNCMD for a NetWare server:

```
RUNCMD SP=NWSAA1, APPL=NETWARE,
SName=Sales OP=JSmith Query User
  DiskSpaceLeft UserName=jbowman
VolName=pubs
```

The RUNCMD routing parameters define the PU name of a NetWare for SAA server (NWSAA1), the application name (NetWare) of the service, and the destination server name (Sales).

JSmith represents the NetWare ID of the NetView operator.

The server command parameters in the RUNCMD operate as follows:

- The QUERY keyword represents the action.
- The USER keyword indicates the resource to be queried.
- The DISKSPACELEFT (disk space left) attribute parameter defines what user information the query will return.
- jbowman in the USERNAME resource qualifier names the user for which the RUNCMD will retrieve information.
- pubs in the VOLNAME command qualifier identifies the volume for which the RUNCMD will retrieve information.

The following RUNCMD is an example of a command with multiple attribute parameters.

```
RUNCMD SP=NWSAA1, APPL=NETWARE,
SName=Sales OP=JSmith Query Server Date Time
```

In this example, both DATE and TIME are attribute parameters for the QUERY SERVER RUNCMD. When this RUNCMD is sent, NetWare returns the date and time for the specified server.

RUNCMD Tables

This section lists the server RUNCMD parameters for NetWare v3.1*x* and NetWare 4.*x* servers. Table 3-4 lists the server RUNCMD parameters according to the action being performed. Table 3-5 lists the server RUNCMD parameters according to the resource on which the action is being performed (for example, a file or directory).

The RUNCMD tables use the following conventions:

- When the phrase *(v1.3 & later)* appears in the *Action* column, the RUNCMD and all its parameters can be used only with NetWare for SAA v1.3 and later and NMA for NetView v1.3 and later.
- When the phrase *(v1.3 & later)* appears adjacent to a single attribute parameter or qualifier, that parameter or qualifier can be used only with v1.3-and-later servers. Unmarked parameters and qualifiers may be used with v1.2-and-later servers.
- When the phrase *(NetWare 4.x)* appears in the *Action* column, the RUNCMD and all its parameters can be used only with NetWare 4.0-and-later servers. These RUNCMDs do not work with servers that use NetWare v3.1*x*.
- When the phrase *(NWSAA)* appears in the *Action* column, the RUNCMD and its parameters can be used only with servers running NetWare for SAA. These RUNCMDs do not work with servers running NMA for NetView.

Important

These tables list the server parameters for each RUNCMD you can send to NetWare. These commands should always be preceded with the following routing and security parameters:

RUNCMD SP=*service_point_name*, **APPL=NETWARE,**
SName=*server_name* **[OP=***userid***]**

Table 3-4
NetWare 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 *(v1.3 & later)*	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname* **Rights= [A][C][E][F][M] [R][S][W]**
Broadcast	**Server**			**Msg=** "*message*" **[UserName=** *uname***]**
Disable	**Server**	**Login**		
Disable	**TTS**			
Down	**Server**			**[Opts= [0][1]]**
Enable	**Server**	**Login**		
Enable	**TTS**			

Table 3-4 ***continued***

NetWare RUNCMDs Sorted by Action

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Get *(v1.3 & later, NetWare 4.x)*	**Server**	**Parm=** "*parameter*"		
Load *(NWSAA)*	**CS**	**CSName=** *name*		
Load	**NLM**	**NLMName=** *name*		**[Args=** "*argument*"**]**
Query *(v1.3 & later, NWSAA)*	**CS**	**Version**		
Query	**Directory**		**Path=***path*	
Query	**Directory**	**Rights**	**Path=***path*	**UserName=** *uname*
Query	**Directory**	**SpaceAllowed**	**Path=***path*	
Query	**File**		**Path=***path*	**[UserName=** *uname***]** *(v1.3 & later)*
Query	**File**	**Rights**	**Path=***path*	**[UserName=** *uname***]**
Query	**IPX**	**Version**		
Query	**Server**			
Query *(v1.3 & later)*	**Server**	**Date** **Time**		
Query	**Server**	**InternetAddr**		
Query	**Server**	**LoginStatus**		
Query	**Server**	**NumOfVols**		
Query *(v1.3 & later)*	**Server**	**Volumes**		

Table 3-4 ***continued***
NetWare 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* **SpaceAllowed=** *space*	**Path=***path*	

Table 3-4 ***continued***

NetWare 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 *(v1.3 & later)*	**Server**	**Date=***date* **Time=***time*		
Set *(v1.3 & later, NetWare 4.x)*	**Server**	**Parm=** "*parameter*"	**Value=**value	
Set *(v1.3 & later)*	**Volume**	**NoRestriction**	**VolName=** *vname*	**UserName=** *uname*
Set	Volume	USpaceAllow**ed** **=***space*	VolName= *vname*	UserName= *uname*
UnLoad *(NWSAA)*	**CS**	**CSName=***name*		
UnLoad	**NLM**	**NLMName=** *name*		

Table 3-5
NetWare RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Load *(NWSAA)*	**CS**	**CSName=***name*		
Query *(v1.3 & later, NWSAA)*	**CS**	**Version**		
UnLoad *(NWSAA)*	**CS**	**CSName=***name*		
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*	
Remove	**Directory**	**Trustee**	**Path=***path*	**UserName=** *uname*
Set	**Directory**	**CDate=***date* **CTime=***time* **Owner=***name* **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***]** *(v1.3 & later)*

Table 3-5 ***continued***

NetWare RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
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*		
Broadcast	**Server**			**Msg=** "*message*" **[UserName=** *uname***]**
Disable	**Server**	**Login**		
Down	**Server**			**[Opts=[0][1]]**
Enable	**Server**	**Login**		
Get *(v1.3 & later, NetWare 4.x)*	**Server**	**Parm=** "*parameter*"		
Query	**Server**			
Query *(v1.3 & later)*	**Server**	**Date** **Time**		

Table 3-5 ***continued***

NetWare RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**Server**	**InternetAddr**		
Query	**Server**	**LoginStatus**		
Query	**Server**	**NumOfVols**		
Query *(v1.3 & later)*	**Server**	**Volumes**		
Set *(v1.3 & later)*	**Server**	**Date=date** **Time**=time		
Set *(v1.3 & later, NetWare 4.x)*	**Server**	**Parm=** "*parameter*"	**Value=**value	
Query	**SPX**	**Config**		
Query	**SPX**	**Version**		
Disable	**TTS**			
Enable	**TTS**			
Query	**TTS**	**Status**		
Query	**User**	**DiskSpaceLeft**	**UserName=** *uname*	**VolName=** *vname*
Query	**User**	**DiskUsage**	**UserName=** *uname*	**VolName=** *vname*
Add *(v1.3 & later)*	**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*

Table 3-5 ***continued***

NetWare RUNCMDs Sorted by Resource

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**Volume**	**USpaceAllowed**	**VolName=** *vname*	**UserName=** *uname*
Remove	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname*
Set *(v1.3 & later)*	**Volume**	**NoRestriction**	**VolName=** *vname*	**UserName=** *uname*
Set	**Volume**	**USpaceAllowed** **=***space*	**VolName=** *vname*	**UserName=** *uname*

NetWare RUNCMD Descriptions

This section describes the function and the server RUNCMD parameters for each RUNCMD you can send to NetWare. The server RUNCMD parameters in each RUNCMD should always be preceded by the following and routing and security parameters:

```
RUNCMD SP=service_point_name, APPL=NETWARE
   SName=server_name [OP=userid]
```

Many RUNCMD descriptions include tables that use the following conventions:

- When the phrase *(v1.3 & later)* appears in the *Action* column, the RUNCMD and all its parameters can be used only with NetWare for SAA v1.3 and later and NMA for NetView v1.3 and later.
- When the phrase *(v1.3 & later)* appears adjacent to a single attribute parameter or qualifier, that parameter or qualifier can be used only with v1.3-and-later servers. Unmarked parameters and qualifiers may be used with v1.2-and-later servers.
- When the phrase *(NetWare 4.x)* appears in the *Action* column, the RUNCMD and all its parameters can be used only with NetWare 4.0-and-later servers. These RUNCMDs do not work with servers that use NetWare v3.1*x*.
- When the phrase *(NWSAA)* appears in the *Action* column, the RUNCMD and its parameters can be used only with servers running NetWare for SAA. These RUNCMDs do not work with servers running NMA for NetView.

ADD VOLUME, DIRECTORY, or FILE TRUSTEE

The ADD RUNCMDs allow you to add a trustee to a volume, directory, or file on a NetWare server. A trustee is a NetWare user that is entitled to use the volume, directory, or file. Table 3-6 shows the server RUNCMD parameters for each ADD RUNCMD.

Table 3-6
NetWare ADD RUNCMDs

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 *(v1.3 & later)*	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname* **Rights= [A][C][E][F][M] [R][S][W]**

path, in the PATH resource qualifier, is the NetWare directory path to the volume, directory, or file. The path may include the volume, directory, subdirectory, and filename. For example,

```
Path=Volume:MyDir\MySubDir\MyFile.txt
```

uname, in the USERNAME command qualifier, is the name of the user that will be allowed access to the volume, directory, or file.

The RIGHTS command qualifier specifies how the user will be able to use the directory, file, or volume. The RIGHTS command qualifier must be followed by one or more of the letters shown in Table 3-7.

Table 3-7
NetWare Rights

Letter	Right	Description
A	Access Control	Allows users to modify trustee assignments and inherited rights masks (IRM).
C	Create	Allows users to create files and subdirectories.
E	Erase	Allows users to delete files and subdirectories.
F	File Scan	Allows users to see files.
M	Modify	Allows users to change directory and file attributes and to rename subdirectories and files.
R	Read	Allows users to open and read files.
S	Supervisory	Grants all rights to the directory or file.
W	Write	Allows users to write to files.

When you enter the rights letters, enter them according to the following rules:

- The letters may be entered in any sequence.
- The letters you type may be uppercase or lowercase.
- Do not enter spaces before, between, or after the letters.
- To assign all rights, enter **ALL** for the RIGHTS command qualifier.

The RIGHTS command qualifier simultaneously defines all new rights for the directory, file, or volume. To add rights to a directory, file, or volume, you must include the letters for the new rights and the letters for all existing rights that are to be retained. To review the rights assigned to a directory or file, use the QUERY DIRECTORY RIGHTS or QUERY FILE RIGHTS RUNCMD. For more information on path or NetWare rights, see *NetWare v3.1x Concepts* or *NetWare 4.x Concepts*.

BROADCAST SERVER

The BROADCAST SERVER RUNCMD sends a message to workstation users that are connected to the destination NetWare for SAA or NMA for NetView server. You can broadcast a message to one user or to all users. Consider using this RUNCMD to warn users before shutting down a server.

The BROADCAST SERVER RUNCMD requires the following parameters:

Broadcast Server Msg="*message*"
  [UserName=*uname***]**

When sending RUNCMDs, replace *message* with the message you want to send (the quotation marks are required).

To send a message to all workstation users that are currently logged in, do one of the following:

- Send the RUNCMD without the USERNAME command qualifier.
- Send the RUNCMD with the USERNAME command qualifier and replace *uname* with ALL **(UserName=ALL**).

To send a message to one or more users, send the RUNCMD with a USERNAME command qualifier for each user to whom you want to send the message. For example,

```
Broadcast Server Msg="Server is going down in
  5 minutes." UserName=jbowman
  UserName=vjang
```

In the above example, jbowman and vjang specify the NetWare usernames of the users who will receive the message.

DISABLE SERVER LOGIN or TTS

The DISABLE RUNCMDs can be used to disable server login by workstations or to disable the Transaction Tracking System (TTS).

Consider disabling server login when you have performance problems with the server. Disabling server login prevents additional workstations from logging in. Workstations that are already logged in remain logged in.

Novell recommends that you do not disable TTS. TTS protects database applications from corruption caused when a server, workstation, or network failure interrupts a database transaction. TTS protects the database by backing out incomplete transactions that result from a failure in a network component.

Table 3-8 shows the parameters required by the DISABLE SERVER LOGIN and DISABLE TTS RUNCMDs.

Table 3-8
NetWare DISABLE RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Disable	**Server**	**Login**		
Disable	**TTS**			

DOWN SERVER

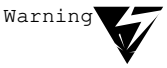
The DOWN SERVER RUNCMD brings down the NetWare server. This RUNCMD uses the following parameters:

```
Down Server [Opts=[0][1]]
```

When the DOWN SERVER RUNCMD is entered without the OPTS command qualifier, the server shuts down immediately, regardless of the current state of server files. If files are open, changes made to those files may be lost.

The server may shut down before it responds to the DOWN SERVER RUNCMD. When this happens, NCCF may display a RUNCMD timeout message.

When the DOWN SERVER RUNCMD is entered with the OPTS command qualifier, you must choose option 1 or option 0 (zero). Option 1 (**`Opts=1`**) shuts down the server immediately, regardless of the current state of server files. Option 0 (**`Opts=0`**) shuts down the server only when no server files are open; if any server files are open, the server is not shut down.



When you bring down a server, the server is instantly unavailable to all users and to the NetWare administrator. Before bringing down a server, consider using the BROADCAST SERVER RUNCMD to warn all users. Also, you should warn the NetWare administrator before bringing down a server.

ENABLE SERVER LOGIN or TTS

The ENABLE RUNCMDs can be used to enable server login by workstations or to enable the Transaction Tracking System (TTS).

TTS protects database applications from corruption caused when a server, workstation, or network failure interrupts a database transaction. TTS protects the database by backing out incomplete transactions that result from a failure in a network component.

Table 3-9 shows the parameters required for the ENABLE RUNCMDs.

Table 3-9
NetWare ENABLE RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Enable	**Server**	**Login**		
Enable	**TTS**			

GET SERVER

The GET SERVER RUNCMD allows you to display the value of *most* (not all) NetWare 4.*x* server control parameters. Server control parameters are the parameters that can be specified with the NetWare 4.*x* SET command. Table 3-10 shows the syntax of the GET SERVER RUNCMD.

Table 3-10
NetWare GET SERVER RUNCMD

Action	Resource	Attribute Parameters	Resource Qualifier	Command Qualifier
Get *(v1.3 & later, NetWare 4.x)*	**Server**	**Parm=** "*parameter*"		

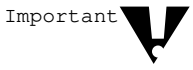
The GET SERVER RUNCMD operates only on NetWare 4.*x* servers. To view one of the server parameters, enter the RUNCMD and replace *parameter* with one of the parameters supported by the NetWare 4.*x* SET command.

You can enter a parameter name in uppercase or lowercase letters. You must enter a single space between each pair of words in the parameter name, and you must enclose the parameter name in quotation marks. Do not enter additional spaces before or after the parameter name.

The following example RUNCMD displays the setting for the Maximum Packet Receive Buffers control parameter on the target server.

```
Get Server Parm="Maximum Packet Receive
  Buffers"
```

For a listing of parameters supported by the SET command, see the *NetWare 4.x Utilities Reference*.



Not all parameters supported by the NetWare 4.*x* SET command are supported by the GET SERVER RUNCMD. See "SET Parameters Unsupported by GET SERVER" for a listing of SET parameters not supported by the GET SERVER RUNCMD.

SET Parameters Unsupported by GET SERVER

The following NetWare SET parameters are *not* supported by the GET SERVER RUNCMD:

- Daylight Savings Time Offset
- Delay Before First Watchdog Packet
- Delay Between Watchdog Packets
- Directory Cache Allocation Wait Time
- Directory Cache Buffer NonReferenced Delay
- Dirty Directory Cache Delay Time
- File Delete Wait Time
- Garbage Collection Interval
- Minimum File Delete Wait Time
- New Packet Receive Buffer Wait Time
- New Service Process Wait Time
- Pseudo Preemption Time
- TIMESYNC Maximum Offset
- TIMESYNC Polling Interval
- TIMESYNC Time Adjustment
- TTS Backout File Truncation Wait Time
- TTS Unwritten Cache Wait Time
- Turbo FAT Re-Use Wait Time

LOAD CS or NLM

The LOAD RUNCMDs load a communication service or NLM. Table 3-11 lists the parameters used by the LOAD RUNCMDs.

Table 3-11
NetWare LOAD RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Load	**CS**	**CSName=** *name*		
Load	**NLM**	**NLMName=** *name*		**[Args=** "*argument*"**]**

Replace *name* with the name of the communication service or NLM you want to load. When loading an NLM, you may use the optional ARGS command qualifier to include any arguments or parameters that are required when you are loading the command from the NetWare console. These arguments or parameters must replace the *argument* variable and be enclosed in quotation marks. For more information on LOAD NLM parameters, refer to the NetWare documentation for the NLM.

Warning

If you send a LOAD RUNCMD with an incomplete set of parameters for an NLM or communication service, a prompt for the missing parameters may appear on the NMA Load Module screen of the server console. The NLM or communication service does not continue execution until the missing information is entered at the server console. You are not notified about the missing parameters, and the NLM or communication service may appear to be operating when it is not. To toggle to the NMA Load Module screen, press <Alt+Esc> or <Ctrl+Esc> at the server console.

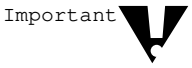
Note

When loading an NLM that has arguments, separate the arguments with spaces.

QUERY CS VERSION

The QUERY CS VERSION RUNCMD returns the version level of the communication executive. This RUNCMD uses the following parameters:

```
Query CS Version
```



The QUERY CS VERSION RUNCMD operates only with NetWare for SAA v1.3 or later.

QUERY DIRECTORY

As shown in Table 3-12, the QUERY DIRECTORY RUNCMD has three forms.

Table 3-12
NetWare QUERY DIRECTORY RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**Directory**		**Path=***path*	
Query	**Directory**	**Rights**	**Path=***path*	**UserName=** *uname*
Query	**Directory**	**SpaceAllowed**	**Path=***path*	

When the QUERY DIRECTORY RUNCMD is used without an attribute parameter, the RUNCMD returns the following information:

- Volume where the directory resides
- Directory owner
- Inherited rights mask
- Creation date and time

The QUERY DIRECTORY RUNCMD returns the following *invalid* values: Access date and time, Modification date and time, and Owner rights. Ignore these values if they are displayed.

The QUERY DIRECTORY RIGHTS RUNCMD returns the rights assigned to the specified NetWare user for the specified directory. The rights are listed in Table 3-7.

The QUERY DIRECTORY SPACEALLOWED RUNCMD returns the amount of available space in the specified directory and the amount of space reserved for the directory.

Use the PATH resource qualifier to specify the directory for which you want information. Replace *path* with the directory path.

When using the QUERY DIRECTORY RIGHTS RUNCMD, use the USERNAME command qualifier to specify the username about which you want information. Replace *uname* with the username.

QUERY FILE

As shown in Table 3-13, the QUERY FILE RUNCMD has two forms.

Table 3-13
NetWare QUERY FILE RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**File**		**Path=***path*	**[UserName=** *uname***]** *(v1.3 & later)*
Query	**File**	**Rights**	**Path=***path*	**[UserName=** *uname*]

When the QUERY FILE RUNCMD does not include an attribute parameter, the RUNCMD returns the following information:

- Inherited rights mask (sometimes does not display)
- Volume where the file resides
- Mode
- Size
- Owner

- Access date and time
- Modification date and time
- Creation date and time
- Name space values
- User rights if a username is included. The username is optional.

The QUERY FILE RUNCMD sometimes also returns archive dates and times. These values are invalid. Ignore them if they are displayed.

When the QUERY FILE RUNCMD includes the RIGHTS attribute parameter, the RUNCMD returns only the rights assigned to the specified user.

Use the PATH resource qualifier to specify the file for which you want information and replace *path* with the volume, directory, and filename path.

The USERNAME command qualifier is optional when the QUERY FILE RUNCMD is entered without the RIGHTS attribute parameter. To display the file information and the rights for a specific user, include the USERNAME command qualifier and replace *uname* with the user's NetWare username.

QUERY IPX VERSION

The QUERY IPX RUNCMD returns the IPX version information. This RUNCMD uses the following parameters:

```
Query IPX Version
```

QUERY SERVER

Table 3-14 lists the parameters used by each of the QUERY SERVER RUNCMDs.

Table 3-14
NetWare QUERY SERVER RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**Server**			
Query *(v1.3 & later)*	**Server**	**Date** **Time**		
Query	**Server**	**InternetAddr**		
Query	**Server**	**LoginStatus**		
Query	**Server**	**NumOfVols**		
Query *(v1.3 & later)*	**Server**	**Volumes**		

When the QUERY SERVER RUNCMD is used without an attribute parameter, the RUNCMD returns the following information:

- NetWare version number
- Maximum number of connections supported

Warning

The value returned for the maximum number of connections supported is the NetWare OS license (max. number of NCP users) plus 100. The additional 100 connections reflect the capability of NetWare modules to use these connections. For an accurate number, subtract 100 from the value returned.

- Number of connections in use
- System Fault Tolerance (SFT) level
- TTS level
- Maximum number of volumes supported
- Security restriction level

When the QUERY SERVER RUNCMD includes an attribute parameter, NetWare returns the information requested by the parameter (see Table 3-15).

Table 3-15
QUERY SERVER Attribute Parameters

Attribute Parameter	Information Sent to NetView
Date	The server date.
InternetAddr	The network and node addresses of the server.
LoginStatus	The server login status, either *enabled* or *disabled*.
NumOfVols	The number of server volumes.
Time	The server time.
Volumes	A list of the volumes mounted on the server.

QUERY SPX

As shown in Table 3-16, the QUERY SPX RUNCMD has two forms.

Table 3-16
NetWare QUERY SPX RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**SPX**	**Config**		
Query	**SPX**	**Version**		

The QUERY SPX CONFIG RUNCMD returns the maximum number of SPX connections supported and the number of available connections.

The QUERY SPX VERSION RUNCMD returns the SPX version number.

QUERY TTS

The QUERY TTS RUNCMD returns the status of the Transaction Tracking System (TTS), which is either *enabled* or *disabled*. TTS protects database applications from corruption caused when a server, workstation, or network failure interrupts a database transaction. TTS protects the database by backing out incomplete transactions that result from a failure in a network component.

The format for this RUNCMD is

```
Query TTS Status
```

QUERY USER

The QUERY USER RUNCMD has two forms, which are listed in Table 3-17.

Table 3-17
NetWare QUERY USER RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**User**	**DiskSpaceLeft**	**UserName=** *uname*	**VolName=** *vname*
Query	**User**	**DiskUsage**	**UserName=** *uname*	**VolName=** *vname*

The QUERY USER DISKSPACELEFT RUNCMD returns the amount of remaining volume disk space allocated to the user. The QUERY USER DISKUSAGE RUNCMD returns the number of directories, files, and blocks being used by a user.

Use the USERNAME resource qualifier to specify the username about which you want information and replace *uname* with that user's username; use the VOLNAME command qualifier to specify the volume for which you want the information and replace *vname* with the volume name.

QUERY VOLUME

Table 3-18 lists the three forms of the QUERY VOLUME RUNCMD.

Table 3-18
NetWare QUERY VOLUME RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Query	**Volume**		**VolName=** *vname*	
Query	**Volume**	**DiskUsage**	**VolName=** *vname*	**UserName=** *uname*
Query	**Volume**	**USpaceAllowed**	**VolName=** *vname*	**UserName=** *uname*

When used without an attribute parameter, the QUERY VOLUME RUNCMD returns

- Volume number
- Number of sectors per block
- Total number of blocks
- Starting block number
- Total available blocks
- Total directory slots
- Available directory slots
- Maximum directory slots used
- Volume status (mounted, hashing, or removable)

QUERY VOLUME receives no response if the Maximum Frame Size to Transmit Inbound field is set at less than 521 on the target NMA for NetView server or for the service profile used on the target NetWare for SAA server. The Maximum Frame Size to Transmit Inbound field is set through the CSCON program on NetWare for SAA server and the NVCONFIG program on the NMA for NetView server. The ideal size of the setting is 1033.

The QUERY VOLUME DISKUSAGE RUNCMD returns the number of directories, files, and blocks being used by a user. The QUERY VOLUME USPACEALLOWED RUNCMD returns the amount of space allowed to the specified user.

Use the VOLNAME resource qualifier to specify the volume for which you want information and replace *vname* with the volume name; use the USERNAME command qualifier to specify the user for which you want information and replace *uname* with that user's NetWare username.

REMOVE VOLUME, DIRECTORY, or FILE TRUSTEE

The REMOVE RUNCMDs allow you to remove a trustee from a volume, directory, or file on a NetWare server. A trustee is a NetWare user that is entitled to use the volume, directory, or file.

Table 3-19 shows the parameters used by the REMOVE RUNCMDs.

Table 3-19
NetWare REMOVE RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
Remove	**Directory**	**Trustee**	**Path=***path*	**UserName=** *uname*
Remove	**File**	**Trustee**	**Path=***path*	**UserName=** *uname*
Remove	**Volume**	**Trustee**	**VolName=** *vname*	**UserName=** *uname*

When using the REMOVE DIRECTORY TRUSTEE and REMOVE FILE TRUSTEE RUNCMDs, use the PATH resource qualifier to specify the NetWare directory path to the volume, directory, or file from which the trustee will be removed. Replace *path* with a pathname that may include the volume, directory, subdirectory, and filename. For example,

```
Path=Volume:MyDir\MySubDir\MyFile.txt
```

For more information on specifying a directory or file path, see *NetWare v3.1x Concepts* or *NetWare 4.x Concepts*.

Use the USERNAME command qualifier to specify the user who will be denied access to the file or directory and replace *uname* with that user's NetWare username.

When using the REMOVE VOLUME TRUSTEE RUNCMD, use the VOLNAME resource qualifier and replace *vname* with the volume from which the trustee will be removed.

SET DIRECTORY

The SET DIRECTORY RUNCMDs allow you to set one or more properties of a directory with a single RUNCMD. Table 3-20 shows the parameters used by the SET DIRECTORY RUNCMDs.

Table 3-20
NetWare SET DIRECTORY RUNCMDs

Action	Resource	Attribute Parameters	Resource Qualifier	Command Qualifier
Set	**Directory**	**CDate=***date* **CTime=***time* **Owner=***name* **SpaceAllowed** **=***space*	**Path=***path*	

The attribute parameters in Table 3-20 define the directory properties to be set. Table 3-21 shows the properties that each attribute parameter controls.

Table 3-21
SET DIRECTORY Attribute Parameters

Attribute Parameter	Property Defined
CDate=*date*	Directory creation date. Replace *date* with the new creation date for the directory.
CTime=*time*	Directory creation time. Replace *time* with the new creation time for the directory.
Owner=*name*	Directory owner. Replace *name* with the user ID for the new owner of the directory.
SpaceAllowed=*space*	The maximum space allowed for all files and subdirectories within the directory. Replace *space* with a number that represents the maximum size of the directory. You cannot specify unlimited space; you must specify a value.

Use the PATH resource qualifier to specify the directory to be modified and replace *path* with its pathname.

SET FILE

The SET FILE RUNCMD allows you to set one or more properties of a file with a single RUNCMD. Table 3-22 shows the parameters used by the SET FILE RUNCMD.

Table 3-22
NetWare SET FILE RUNCMDs

Action	Resource	Attribute Parameters	Resource Qualifier	Command Qualifier
Set	**File**	**ADate=***date* **ArDate=***date* **ArTime=***time* **CDate=***date* **CTime=***time* **Owner=***name* **UDate=***date* **UTime=***time*	**Path=***path*	

The attribute parameters in Table 3-22 define the directory properties to be set. Table 3-23 shows the properties that each attribute parameter controls.

Table 3-23
SET FILE Attribute Parameters

Attribute Parameter	Property Defined
ADate=*date*	File access date. Replace *date* with the new access date for the file.
ArDate=*date*	File archive date. Replace *date* with the new archive date for the file.
ArTime=*time*	File archive time. Replace *time* with the new archive time for the file.
CDate=*date*	File creation date. Replace *date* with the new creation date for the file.
CTime=*time*	File creation time. Replace *time* with the new creation time for the file.
Owner=*name*	File owner. Replace *name* with the user ID for the new owner of the file.
UDate=*date*	File update date. Replace *date* with the new update date for the file.
UTime=*time*	File update time. Replace *time* with the new update time for the file.

Use the PATH resource qualifier to specify the directory path to the file you are modifying and replace *path* with the pathname. Include the name of the file.

SET SERVER

The SET SERVER RUNCMDs allow you to set one or more properties of a NetWare server with a single RUNCMD. It allows you to reset the value of most (not all) server control parameters supported by the NetWare 4.*x* SET command.

Table 3-24 shows the parameters used by the SET SERVER RUNCMDs.

Table 3-24
NetWare SET SERVER RUNCMDs

Action	Resource	Attribute Parameters	Resource Qualifier	Command Qualifier
Set *(v1.3 & later)*	**Server**	**Date=***date* **Time=***time*		
Set *(v1.3 & later, NetWare 4.x)*	**Server**	**Parm=** "*parameter*"	**Value=** *value*	

To set the server date, use the DATE attribute parameter and replace *date* with the new date. To set the server time, use the TIME attribute parameter and replace *time* with the new server time.

To set one of the server parameters, use the PARM attribute parameter and replace *parameter* with one of the parameters supported by the NetWare 4.*x* SET command.

The SET SERVER PARM RUNCMD operates only with NetWare 4.*x* servers. If you need to adjust a SET command parameter in a NetWare v3.1*x* server, contact the NetWare administrator. The NetWare administrator can use the NetWare 3.1*x* SET command to adjust SET command parameters supported on the target NetWare 3.1*x* server.

You can enter a parameter name in uppercase or lowercase letters. You must enter a single space character between each pair of words in the parameter name, and you must enclose the parameter name in quotation marks. Do not enter additional spaces before or after the parameter name.

The following example RUNCMD sets the Maximum Packet Receive Buffers parameter on the target server at 150.

```
Set Server Parm="Maximum Packet Receive
  Buffers" Value=150
```

For a listing of parameters supported by the SET command, see the *NetWare 4.x Utilities Reference*.

Important

Not all parameters supported by the NetWare 4.*x* SET command are supported by the NetView SET SERVER RUNCMD. See “SET Parameters Unsupported by SET SERVER” for a listing of SET parameters not supported by the SET SERVER RUNCMD.

SET Parameters Unsupported by SET SERVER

The following NetWare SET parameters are *not* supported by the SET SERVER RUNCMD:

- Daylight Savings Time Offset
- Delay Before First Watchdog Packet
- Delay Between Watchdog Packets
- Directory Cache Allocation Wait Time
- Directory Cache Buffer NonReferenced Delay
- Dirty Directory Cache Delay Time
- File Delete Wait Time
- Garbage Collection Interval
- Minimum File Delete Wait Time
- New Packet Receive Buffer Wait Time
- New Service Process Wait Time
- Pseudo Preemption Time
- TIMESYNC Maximum Offset
- TIMESYNC Polling Interval
- TIMESYNC Time Adjustment
- TTS Backout File Truncation Wait Time
- TTS Unwritten Cache Wait Time
- Turbo FAT Re-Use Wait Time

SET VOLUME

As shown in Table 3-25, the SET VOLUME RUNCMD has two forms.

Table 3-25
SET VOLUME Attribute Parameters

Action	Resource	Attribute Parameters	Resource Qualifier	Command Qualifier
Set *(v1.3 & later)*	**Volume**	**NoRestriction**	**VolName=** *vname*	**UserName=** *uname*
Set	**Volume**	**USpaceAllowed** *=space*	**VolName=** *vname*	**UserName=** *uname*

The SET VOLUME NORESTRICTION RUNCMD removes all restrictions on the amount of space the specified user can use on the specified volume. This RUNCMD operates only with NetWare for SAA v1.3 or later and NMA for NetView v1.3 or later.

The SET VOLUME USPACEALLOWED RUNCMD defines the total amount of space that can be allocated to the specified user on the specified volume.

space defines the allocated space in kilobytes, while *vname* and *uname* define the volume and user to which the RUNCMD applies.

UNLOAD CS or NLM

The UNLOAD RUNCMDs unload a communication service or NLM. Table 3-26 lists the parameters used by the UNLOAD RUNCMDs.

Table 3-26
NetWare UNLOAD RUNCMDs

Action	Resource	Attribute Parameter	Resource Qualifier	Command Qualifier
UnLoad *(NWSAA)*	**CS**	**CSName=** *name*		
UnLoad	**NLM**	**NLMName=** *name*		

If you issue the UNLOAD CS RUNCMD, include the CSNAME attribute parameter and replace *name* with the name of the communication service you want to unload.

If you issue the UNLOAD NLM RUNCMD, include the NLMNAME attribute parameter and replace *name* with the name of the NLM you want to unload.

If you send an UNLOAD RUNCMD for an NLM or communication service, the RUNCMD will fail if the NLM or communication service is exporting functions and symbols to another NLM or communication service. If the UNLOAD RUNCMD fails, a message appears on the NMA Load Module screen of the server console. You are not notified about the failure, and the NLM or communication service may appear to be unloaded when it is not. To toggle to the NMA Load Module screen, press <Alt+Esc> or <Ctrl+Esc> at the server console

appendix A

Installing Code Points for NetWare

The NetView code points supplied on the NetWare for SAA and NMA for NetView diskettes allow NetView to display additional information about alerts that are received from NetWare for SAA or NMA for NetView servers. 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.

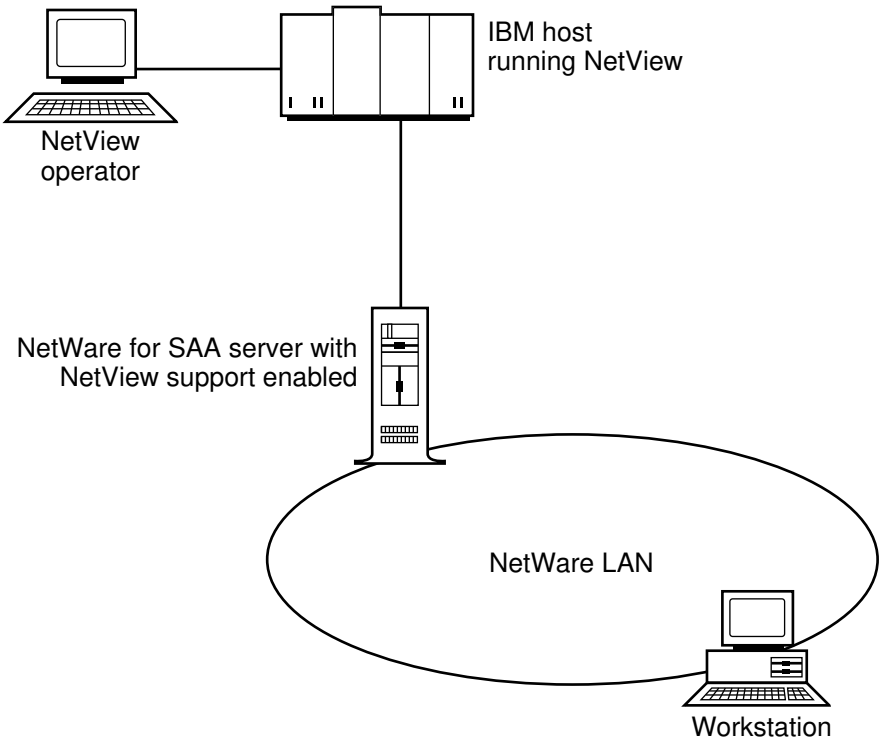
If the host is running an older version of NetView (before v2.1), you might need to install additional code points as described later in this appendix. You do not need to install the code points if the code points for NMA for NetView v1.2 or NetWare for SAA v1.2 are already installed on the NetView host.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

Figure A-1
Installation Overview



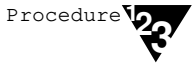
To install the code points, you must perform the following tasks:

- **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 points:
  - Using the 3270 terminal emulation software on a LAN workstation, transfer the code point files from the NetWare for SAA *NetView Support Files* diskette or the *NMA for NetView 1.3B, Disk 3* diskette 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 disk with the code point files.**

   - In the NetWare for SAA package, the code point files are located on the diskette labeled *NetView Support Files*.
   - In the NMA for NetView package, the code point files are located in the CP directory on the *NMA for NetView 1.3B, Disk 3*.

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

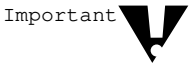
4. **Establish a host session on the workstation.**

   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 a 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.

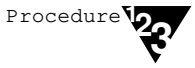
Installing NetView Code Points on VM Systems

Before starting the procedures in this section, complete the procedures in "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 the following commands:**

```
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 the following:**

   ```
   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:**

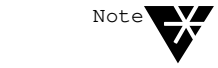
    ```
    #CP DISC
    ```

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:**

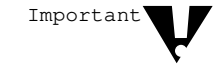
```
srf arec pass e paff
srf arec pass e temp
srf arec pass e impd
svf pass e paff
svf pass e temp
svf pass e impd
```

Note 

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.

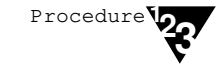
Installing NetView Code Points on MVS Systems

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

Important 

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:

Procedure 

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 at the end of this appendix for a sample JCL listing for a code point installation.

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

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 the following:**

    ```
    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
```

Index

A

ADD DIRECTORY TRUSTEE 3-17
ADD FILE TRUSTEE 3-17
ADD VOLUME TRUSTEE 3-17
Alerts
  alphabetical listing 2-4 to 2-46
  flow control 1-16
  generation 1-6

B

Broadcast message, sending 3-19
BROADCAST SERVER 3-19

C

Code points
  installing
    on MVS systems A-8
    on VM systems A-5
    overview A-2
  transferring files to the host prior to installation A-4
  versions of NetView requiring installation of A-1
Collection point servers, overview 1-12
Communication executive, displaying version number 3-25
Communication service
  loading 3-24
  unloading 3-39

D

Directories
  adding a trustee 3-17
  displaying properties 3-25
  removing trustees 3-32
  setting properties 3-33
DISABLE SERVER LOGIN 3-20
DISABLE TTS 3-20
DOWN SERVER 3-20
Downed server detection 1-16

E

ENABLE SERVER LOGIN 3-21
ENABLE TTS 3-21
End point servers, overview 1-13

F

Files
  adding a trustee 3-17
  displaying information about 3-26
  removing trustees 3-32
  setting properties of 3-34

G

GET SERVER 3-22

H

Host connectivity options
collection point servers 1-12
end point servers 1-13
standalone servers 1-15

I

Internetwork Packet Exchange 3-27
IPX, displaying the version number 3-27

L

LOAD CS 3-24
LOAD NLM 3-24
Login
disabling 3-20
enabling 3-21

M

Messages
alerts 2-2 to 2-46
broadcasting 3-19
RUNCMD response error messages 2-47 to 2-63
Multiple Virtual Storage (MVS), installing NetWare code points on A-8

N

NET/MASTER 1-1
NetView
NetWare products supporting 1-1
versions requiring NetWare code point installation A-1
NetView feature control
in NetWare for SAA 1-17
in NMA for NetView 1-18
NetView support features 1-4 to 1-22
alert flow control 1-16
alert generation 1-6
configuration file controls 1-16 to 1-17
downed server detection 1-16
feature control 1-17 to 1-18
host connectivity options 1-12 to 1-16
Open NetView Interface 1-18
RUNCMD filtering 1-11
RUNCMD processing 1-7
RUNCMD retry and timeout control 1-17
RUNCMD security 1-10
NetWare code points
installing A-2
on MVS systems A-8
on VM systems A-5
transferring files to the host prior to installation A-4
versions of NetView requiring installation A-1
NetWare for SAA
introduction 1-3
summary of versions 1-20
version 1.3B, new NetView support features 1-4
NetWare Loadable Module. *See* NLMs
NetWare servers, overview 1-2
NetWare SET command
displaying parameters 3-22
parameters not supported by the GET SERVER RUNCMD 3-23
parameters not supported by the SET SERVER RUNCMD 3-37
supporting with RUNCMDs 3-35
NLMs
loading 3-24
unloading 3-39

NMA for NetView
introduction 1-3
summary of versions 1-22
version 1.3B, new NetView support features 1-4

O

Open NetView Interface 1-18

Q

QUERY CS VERSION 3-25
QUERY DIRECTORY 3-25
QUERY FILE 3-26
QUERY IPX VERSION 3-27
QUERY SERVER 3-28
QUERY SPX 3-29
QUERY TTS 3-30
QUERY USER 3-30
QUERY VOLUME 3-31

R

REMOVE DIRECTORY TRUSTEE 3-32
REMOVE FILE TRUSTEE 3-32
REMOVE VOLUME TRUSTEE 3-32
RUNCMD filtering, introduction 1-11
RUNCMD processing 1-7
RUNCMD response error messages, alphabetical listing 2-47 to 2-63
RUNCMD retry and timeout control 1-17
RUNCMD security
overview 1-10
required user status 1-10
RUNCMDs
ADD DIRECTORY TRUSTEE 3-17
ADD FILE TRUSTEE 3-17
ADD VOLUME TRUSTEE 3-17
alphabetical descriptions 3-16 to 3-39
BROADCAST SERVER 3-19
RUNCMDs
DISABLE SERVER LOGIN 3-20
DISABLE TTS 3-20
DOWN SERVER 3-20
ENABLE SERVER LOGIN 3-21
ENABLE TTS 3-21
examples 3-6 to 3-7
filtering, introduction 1-11
GET SERVER 3-22
how to send 3-1 to 3-7
LOAD CS 3-24
LOAD NLM 3-24
parameters 3-4 to 3-6
processing 1-7
QUERY CS VERSION 3-25
QUERY DIRECTORY 3-25
QUERY FILE 3-26
QUERY IPX VERSION 3-27
QUERY SERVER 3-28
QUERY SPX 3-29
QUERY TTS 3-30
QUERY USER 3-30
QUERY VOLUME 3-31
REMOVE DIRECTORY TRUSTEE 3-32
REMOVE FILE TRUSTEE 3-32
REMOVE VOLUME TRUSTEE 3-32
routing 3-2 to 3-3
security 1-10, 3-3
server control types 1-9
server query 1-8
SET DIRECTORY 3-33
SET FILE 3-34
SET SERVER 3-35
SET VOLUME 3-38
supporting the NetWare SET command 3-35
table listing by action 3-8 to 3-11
table listing by resource 3-12 to 3-15
UNLOAD CS 3-39
UNLOAD NLM 3-39

S

SAA profile, loading 3-24
Sequenced Packet Exchange. *See* SPX
Server control parameters
  displaying 3-22
  setting 3-35
Server control RUNCMDs 1-9
Server query RUNCMDs 1-8
Servers
  collection point 1-12
  displaying information about 3-28
  downing 3-20
  end point 1-13
  setting control parameters for 3-35
  standalone 1-15
SET DIRECTORY 3-33
SET FILE 3-34
SET SERVER 3-35
SET VOLUME 3-38
SPX
  displaying supported connections 3-29
  displaying version number 3-29
Standalone servers, overview 1-15

T

Transaction Tracking System. *See* TTS
Trustees
  adding to a volume, directory, or file 3-17
  removing from a volume, directory,
    or file 3-32
TTS
  disabling 3-20
  displaying enabled or disabled status 3-30
  enabling 3-21

U

UNLOAD CS 3-39
UNLOAD NLM 3-39
Users, displaying information about 3-30

V

Virtual Machine (VM), installing NetWare code points
    on A-5
Volumes
  adding a trustee 3-17
  displaying information about 3-31
  removing trustees 3-32
  setting properties 3-38

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