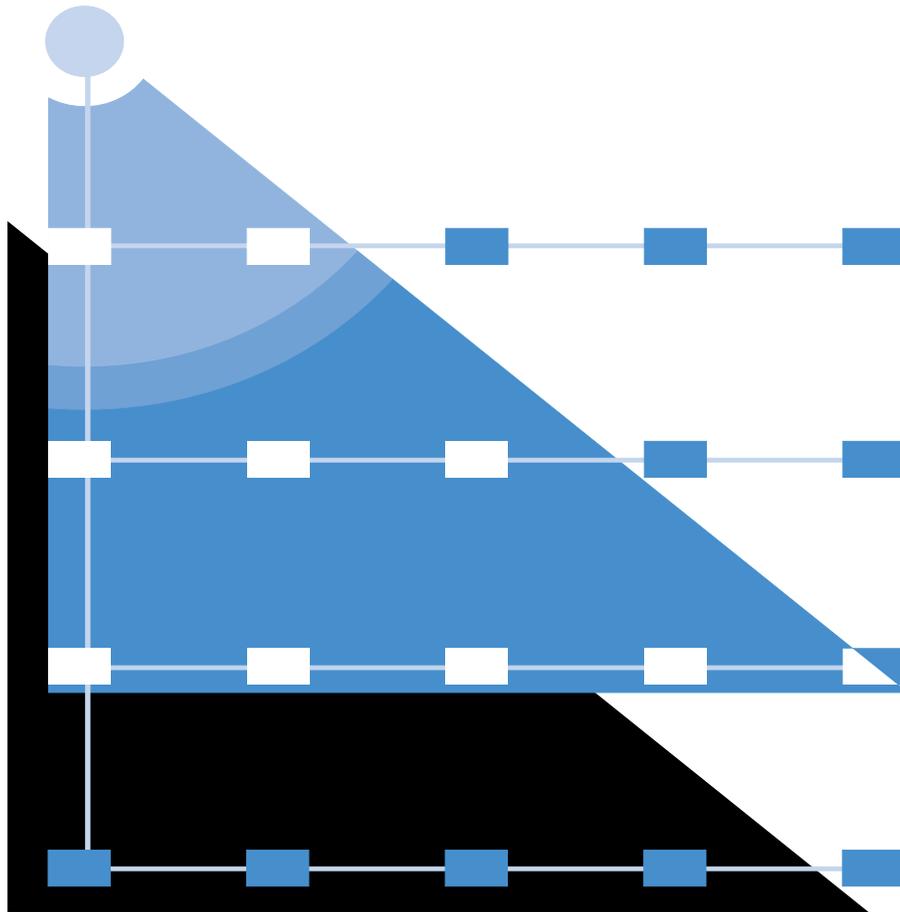SONET Transmission Products

S/DMS Network Manager
Configuration

Standard   Rel 6   November 1996

NORTEL
NORTHERN TELECOM

SONET Transmission Products

S/DMS Network Manager

Configuration

Document number: 323-4001-054
Document release: Rel 6 Standard
Date: November 1996

Publication history

November 1996

Standard for S/DMS Network Manager Release 6. Release 6 includes connection management enhancements (support for Virtual Tributary Bandwidth Manager (VTBM) and linear systems), revised network display for groups, and network element support for Tellab Titan 5500 Digital Cross-Connect System (DCS), DV45 Video Codec, and OC-192 network elements.

January 1996

Standard for S/DMS Network Manager Release 5. Release 5 adds STS connection management (provisioning) and service assurance functions to S/DMS Network Manager. Release 5 also introduces extensive changes to the user interface in the area of menu structure, node information, and display selection capabilities.

April 1995

Standard for S/DMS Network Manager Release 4. Release 4 includes updates for performance monitoring consolidation, remote inventory query and display, shelf-level graphics, provisionable span information, and support for additional users on certain S/DMS Network Manager hardware platforms.

September 1994

Standard for S/DMS Network Manager Release 3. Release 3 includes updates for centralized software management, enhanced alarm collection control, asynchronous alarm display, alarm filtering, alarm banner, TA-1230 ring configuration and traffic display, access to graphical OPC user interface, external device access, and enhancements to the S/DMS Network Manager software installation and upgrade process. This is also the first issue of the S/DMS Network Manager User Guide produced in full color.

January 1994

Standard for S/DMS Network Manager Release 2. Release 2 includes updates for user-defined network element groupings, transparent network element login access, detailed alarm information display, user-selectable link types, unrestricted network element node placement, and interwindow linking of network element nodes.

April 1993

Standard for S/DMS Network Manager Release 1. This user guide introduces the S/DMS Network Manager and describes the S/DMS Network Manager Release 1 network configuration and alarm monitoring capabilities.

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About this guide

This book describes configuring a network using S/DMS Network Manager Release 6 software.

Who should read this book

This book is intended for people responsible for configuring networks (admin access class).

S/DMS Network Manager documentation packaging

The documentation for S/DMS Network Manager is composed of one volume. The volume contains nine individual books:

- *Introduction* (323-4001-102) introduces the features and user interface of S/DMS Network Manager.

- *Installation and Administration* (323-4001-202) provides installation and administration information for S/DMS Network Manager. Also, this book provides information on configuring and bootstraping an operations controller (OPC), setting up serial ports for external device access, and customizing the S/DMS Network Manager user environment.

- *Connectivity* (323-4001-053) provides information on logging in and out of S/DMS Network Manager, controllers (OPC and TL1 MOA), network element user interfaces, and external devices.

- *Configuration* (323-4001-054) describes the Graphical Network Editor (GNE) tool of S/DMS Network Manager. The GNE is used to configure a network.

- *Fault Management* (323-4001-055) describes the Graphical Network Browser (GNB) tool of S/DMS Network Manager. The GNB is used for network surveillance.

- *Performance Management* (323-4001-056) describes centralized performance monitoring for the network elements monitored by S/DMS Network Manager.

- *Connection Management* (323-4001-057) describes viewing, provisioning, and editing connections on ring and linear systems.

- *Inventory Management* (323-4001-058) describes taking an inventory of remote network elements monitored by S/DMS Network Manager.
- *Software Management* (323-4001-059) describes controller and network element centralized software management.

Systems supported in this book

This book describes the operation of S/DMS Network Manager with S/DMS TransportNode, S/DMS AccessNode, Cornerstone Voice, SONET Radio 4/40, and TL1 MOA systems. The basic operation of S/DMS Network Manager is the same for each system. However, the availability of some features depends on the system S/DMS Network Manager is monitoring, and the software release installed on the system. For more information, see "Software release compatibility" in *S/DMS Network Manager Introduction*, 323-4001-102.

How commands, parameters, and responses are represented

Commands, parameters, and responses in this book are shown as follows.

System prompts and responses

System prompts and responses are printed as follows:

```
system-prompts and RESPONSES looks like this
```

Command strings

Command strings typed at the keyboard are printed in bold type, followed by a Return or Enter symbol (↵), as follows:

this is what you type ↵

Type the command string exactly as shown, including spaces, and end by pressing the Return key.

Variable parameters are enclosed in angle brackets, as follows:

Install the software in directory <directory name>

An explanation of the variable follows the command string, as follows:

where

<directory name>   is the name of the directory used to...

On-screen buttons and menu commands

Buttons and menu command items are printed in bold type as follows:

select the **Controller Status** command

Hardkeys

Hardkey (keyboard keys) names are printed in plain type as follows:

press Return

Results of an action and comments

Results of an action and comments are printed in italic type, as follows:

The Controller Status dialog appears.

Screen illustrations

The screen illustrations in this book are black and white approximations of the images displayed by S/DMS Network Manager.

References in this book

S/DMS Network Manager can monitor various types of Northern Telecom SONET transmission systems, each of which has its own version of Northern Telecom Publication (NTP). Throughout this book, references to NTPs include an "nnnn" notation in place of the NTP version number. Substitute the appropriate NTP version number for the "nnnn" according to the type of system that S/DMS Network Manager is monitoring, as shown in the following table.

System type	NTP version number
OC-3/OC-12	1111
OC-48	1201
OC-192	1301
S/DMS AccessNode	3001

For example, if this book refers you to *User Interfaces Description*, 323-nnnn-301, and S/DMS Network Manager is monitoring a Northern Telecom OC-48 system, use NTP 323-1201-301 to obtain the appropriate information.

The following NTPs and other documentation are referred to, but not included as an integral part of the *S/DMS Network Manager User Guide*.

- *System Description*, 323-nnnn-100
- *Signal Flow and Protection Switching Descriptions*, 323-nnnn-103
- *Performance Monitoring Description*, 323-nnnn-105
- *User Interfaces Description*, 323-nnnn-301
- *System Administration Procedures*, 323-nnnn-302
- *Software Administration Procedures*, 323-nnnn-303

- *Protection Switching Procedures*, 323-nnnn-311
- *Performance Monitoring Procedures*, 323-nnnn-520
- *Alarm and Trouble Clearing*, 323-nnnn-543
- *S/DMS Network Manager, Release 6.00 Planning Guide*, PG 96-04
- *MOA, Release 2.00 Planning Guide, PG 95-11*
- *HP Visual User Environment User's Guide*, Hewlett Packard Part No B1171-90042
- *HP Remote Access User's Guide*, Hewlett Packard Part No B1862-90011
- *HP-UX Installing Peripherals*, Hewlett Packard Part No B1864-90011
- *HP-UX System Administration Tasks manual*
- *Bellcore SONET BLSR Equipment Criteria* TA-NWT-001230 (issue 2)

Technical support and information

Additional technical support and information can be obtained by contacting the nearest service center. The service centers for the United States and Canada are listed in the following sections.

United States regional service centers

In the United States, contact the nearest regional service center for technical support and information.

For 24 hour emergency technical support
For assistance restoring service on equipment which has been carrying traffic and is out-of-service, call the following toll-free number:

<div align="center">

800-275-3827 (800-ASK-ETAS)

</div>

For technical support from 8 a.m. to 10 p.m.
Call the following toll-free number:

<div align="center">

800-275-8726 (800-ASK-TRAN)

</div>

Southern Region Northern Telecom Inc. 5555 Winward Parkway, Suite B, Alpharetta, Georgia 30201-3895 (404) 661-4000	**Northeast Region** Northern Telecom Inc. 200 Summit Lake Drive Valhalla, New York 10595 (914) 773-2559
Central Region Northern Telecom Inc. 475 Martingale Road Schaumburg, Illinois 60173 (708) 706-8000 or 8389	**Western Region** Northern Telecom Inc. 5575 DTC Parkway, Suite 150 Englewood, Colorado 80111 (303) 850-5600
Pacific Region (North) Northern Telecom Inc. 2305 Camino Ramon San Ramon, California 94583 (510) 867-2000	**Southwest Region** Northern Telecom Inc. 2221 Lakeside Blvd., FL 9 Richardson, Texas 75082-4399 (214) 684-4195 or 1000
Pacific Region (South) Northern Telecom Inc. 300 North Lake Avenue Pasadena, California 91101 (818) 584-2000	**Eastern Region** Northern Telecom Inc. 2010 Corporate Ridge McLean, Virginia 22102 (703) 712-8487

Canada technical assistance service centers

In Canada, contact the nearest technical assistance service center for technical support and information.

For 24-hour emergency technical support
For assistance with problems that can lead to payload-affecting failures or issues that prevent payload protection switching, call the following numbers:

(800) 361-2465 or (514) 956-3500

For 24-hour emergency recovery
For assistance restoring service on equipment which has been carrying payload and is out of service, call ETAS at the following number:

613-226-5456

For non emergency support from 8:00 a.m. to 4:00 p.m.
Call the regional Field Service Engineering (FSE) group in your Technical Assistance Service Center.

FSE West **(Alberta)** Northern Telecom Canada Limited 10235, 101 Street Edmonton, Alberta T5J 3G1 (403) 441-3193	**FSE West** **(British Columbia, Yukon, and Northwest Territories)** Northern Telecom Canada Limited #410, 13251 Delf Place Richmond, British Columbia V6V 2A2 (604) 279-2258
FSE West **(Manitoba, North-Western Ontario)** Northern Telecom Canada Limited 180, 117 King Edward Street E. Winnipeg, Manitoba R3H 0Y3 (204) 788-7531	**FSE West** **(Saskatchewan)** Northern Telecom Canada Limited PO Box 770 Regina, Saskatchewan S4P 3A8 (1867 Hamilton Street, 8th floor) (306) 791-7100 or (306) 791-7110
Ontario Northern Telecom Canada Limited PO Box 3000 Brampton, Ontario L6V 2M6 (905) 452-2104	**Quebec** Northern Telecom Canada Limited PO Box 2110 St. Laurent, Quebec H4L 4Y7 (514) 744-8750
FSE East (Newfoundland) Northern Telecom Canada Limited 63 Thorburn Rd. St. John's, Newfoundland A1B 3M2 (709) 722-2500 or 1-800-661-4827	**FSE East (New Brunswick)** Northern Telecom Canada Limited 1 Brunswick Square, 4th Floor Saint John, New Brunswick E2L 4K2 (506) 632-8271 or (506) 632-8203
FSE East **(Nova Scotia, Prince Edward Island)** Northern Telecom Canada Limited 1701 Hollis St., Suite 900 Halifax, Nova Scotia B3J 3M8 (902) 421-2301	

Understanding GNE

This chapter describes the Graphical Network Editor (GNE). GNE is used by the system administrator to define and maintain a graphical representation of the network to be monitored by S/DMS Network Manager. GNE allows you to specify the controllers from which alarms are collected, and to enable or disable the alarm collection process.

The configuration you create with GNE is shown on the Graphical Network Browser (GNB) and is used by surveillance personnel to monitor the network.

GNE provides two separate types of windows for editing configurations: a network window and a subnetwork window.

The network window first appears when you open GNE. The window remains on the screen for the duration of your session. The network window provides a graphical view of the groups of network elements and the individual network elements that S/DMS Network Manager currently monitors for alarms. The network is shown as a series of connected graphical objects. You can use GNE to add, link, move, and delete the objects. These functions allow you to create a network layout.

A subnetwork window appears when you double-click on a group in the network. The subnetwork window displays the network elements and subgroups that are part of the parent group. A separate subnetwork window exists for each group.

The icons used to represent network elements in S/DMS Network Manager are available in small, large, and variable size designations. Variable size designations enable you to tailor the appearance and behavior of the network element. This feature permits you to display more network elements in the display window.

Group nodes can contain a hierarchy of other groups and network elements, representing a network configuration. This feature enables you to design a network composed of several levels of detail.

Groups are available in three shapes: rectangle, polygon, and multipoint line. Group shapes can help visually differentiate the function of the network elements and other groups located within the group. For example, group shapes can be used to identify system-level network components such as ring and linear systems. Also, group shapes can be used to identify geographic regions monitored by S/DMS Network Manager.

You can transfer network elements and groups between windows. Groups can be nested within other groups, enabling you to design a network composed of several levels of detail, however, you must ensure you do not violate group hierarchies.

Links can be added between groups or network elements to reflect the network connectivity. Links can connect groups or network elements within a single window or different windows. You cannot link groups to network elements.

GNE allows you to log in to the controller for a span of network elements. This login can be initiated from a network window or a subnetwork window. Once logged in to a controller, you can use the standard controller toolsets and tools.

In some cases, you can choose the user interface format displayed when you log in to the controller. If the controller recognizes your S/DMS Network Manager userID, you can choose a character-mode user interface or an X Window user interface.

You can also log in directly to the network elements monitored by S/DMS Network Manager, if the controller of the network element runs a version of software that supports the feature. For more information, see "Software release compatibility" in *S/DMS Network Manager Introduction*, 323-4001-102.

If an external device is connected to S/DMS Network Manager, you can use GNE to display the user interface of that device.

For more information on logging in to a controller or network element, or connecting to an external device, see "Logging in to user interfaces" in *S/DMS Network Manager Connectivity*, 323-4001-053.

If your S/DMS Network Manager monitors a system that contains a TA-1230 ring, you can create a graphical representation of the ring on S/DMS Network Manager using GNE. This representation allows GNB surveillance personnel to monitor the high-speed traffic and the protection status of the ring.

The external alarm control feature enables you to configure S/DMS Network Manager and an external relay unit, so that on detection of certain alarm criteria within the network, external alarm equipment is activated. For more information on the external alarm feature, see "Controlling external alarms" in *S/DMS Network Manager Installation and Administration*, 323-4001-202.

The procedures for performing specific tasks with GNE are located in "Configuring a network" on page 2-1.

GNE network window

The network window appears when you first open GNE. This window allows you to create a network level view of the system monitored by your S/DMS Network Manager. The network window displays graphical objects, as shown in the following illustration, to represent the network elements and groups monitored.

NM-10564.1 (R6)
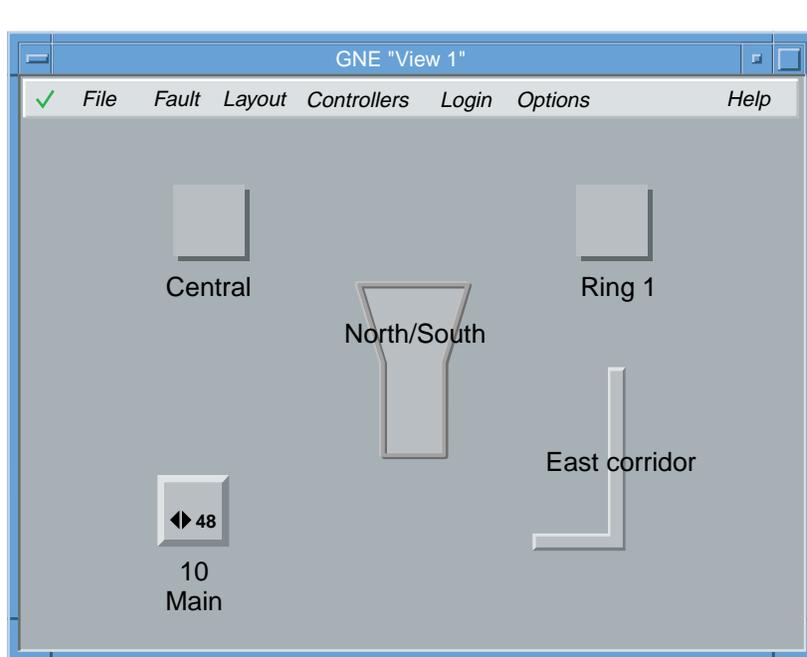
The network window can contain groups and individual network elements. You can use the network window to add, edit, and delete groups, log in to primary or backup controllers, and review the status of the alarm collection process for a particular controller. You can also use the network window to reposition and link groups or network elements and to create a representation of a TA-1230 ring configuration.

You can view the network elements and subgroups associated with a group by selecting the group and opening a subnetwork window.

Status icon

The status icon is located at the left of the menu bar in the network window, as shown in the following illustration. The status icon is not displayed in the GNE subnetwork window.

NM-10565.1 (R5)
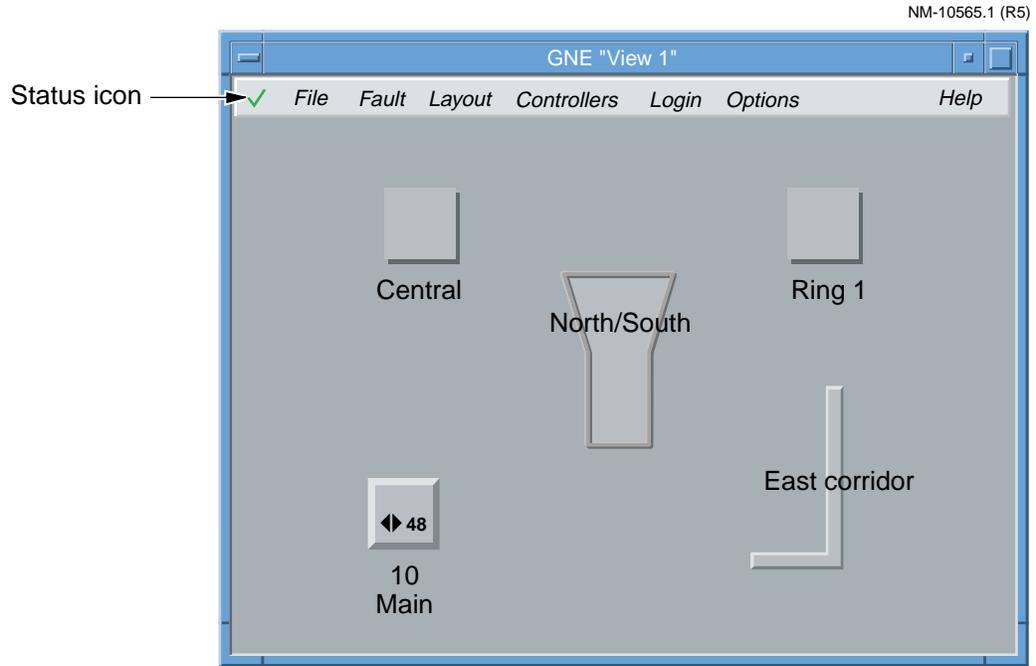
The status icon indicates the state of the controllers monitored by S/DMS Network Manager. The status icon can be one of the following:

✓ A green check mark indicates that all controllers monitored by S/DMS Network Manager are operating normally.

▼ An inverted yellow triangle indicates that alarm reporting has been suspended on at least one controller or network element monitored by S/DMS Network Manager. All other controllers are operating normally.

✕ A red X indicates that at least one controller monitored by S/DMS Network Manager is in the abnormal state.

GNE subnetwork window

The GNE subnetwork window displays groups and network elements currently monitored by S/DMS Network Manager. (See the following illustration.) A separate subnetwork window is available for each group displayed in the network configuration. To display a subnetwork window, open the group by double-clicking on it, or select the group and the Open <group> command from the File or group object menu.
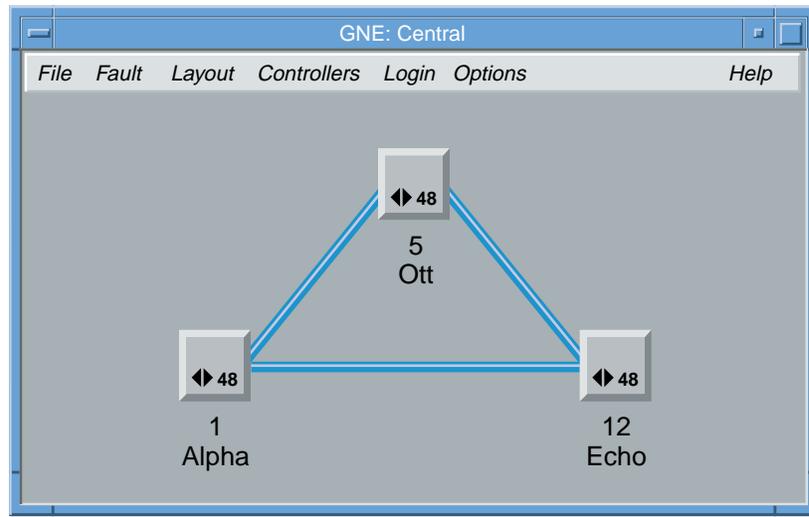
NM-10566.1 (R6)

The name of the parent group that the network elements and groups are associated with is shown in the window title bar.

The subnetwork window allows you to create a customized subnetwork display topology. It is not required that the network elements and groups in a subnetwork be associated with any one particular controller.

GNE window menus

The menus and associated commands in the GNE network and subnetwork windows are almost identical. In some cases, commands are disabled (grayed out). There are two reasons for this: the command does not apply to the current action, or the feature invoked by the command cannot be executed because the controller runs a version of software that does not support the feature. For more information, see "Software release compatibility" in *S/DMS Network Manager Introduction*, 323-4001-102.

Menu Bar

The menu bar is located above the display area of the network and subnetwork window. The menu bar contains a status icon and a menu bar. The following menus are available: File, Fault, Layout, Controllers, Login, Options, and Help. (See the following illustration.)

NM-10567.1 (R6)
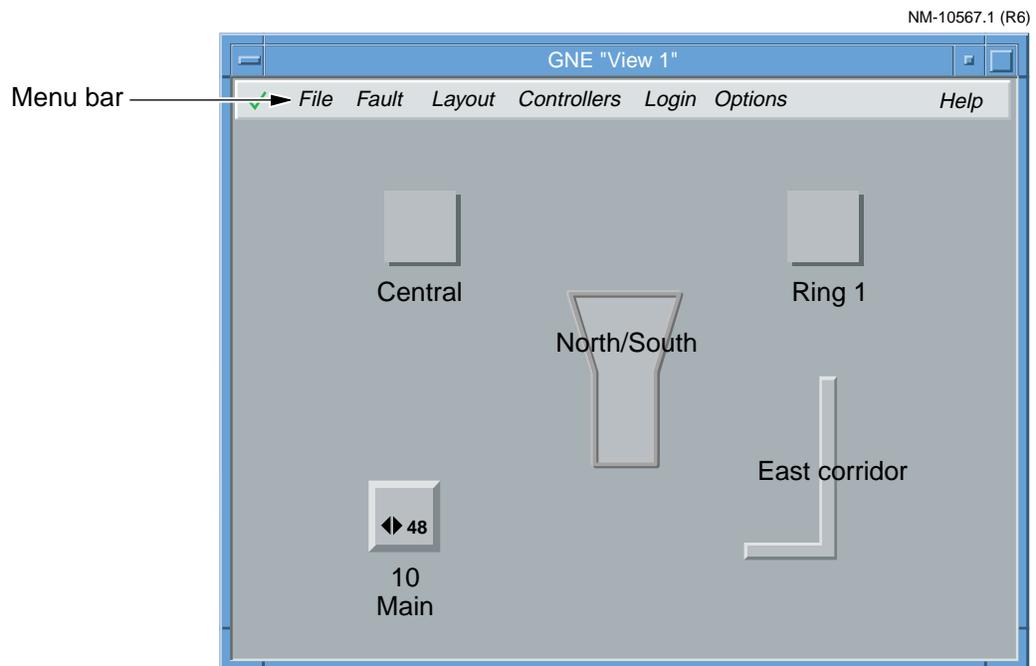
The commands available through the GNE menu bar provide access to all functions of the S/DMS Network Manager software. Commands available through object menus, key combinations, and other techniques are intended as shortcuts for the functions provided by the menu bar commands.

File menu

The File menu enables you to open a subnetwork window for a group, edit and delete annotations for a selected object, and exit GNE. You can also perform a variety of view-related commands that enable you to save a network view by its current (or different) name, revert to the last saved version of a view, switch views, and rename a view.

Fault menu

The Fault menu enables you to suspend alarm reporting for individual network elements.

Layout menu

The Layout menu enables you to set up a graphical representation of the network the way you want it to appear. The commands in this menu enable you to add, change and delete groups and links, and add regenerators to a traffic link.

Controllers menu

The Controllers menu enables you to display a list of controllers monitored by S/DMS Network Manager and add a new controller to the network configuration.

Login menu

The Login menu enables you to log in to a network element, or the network element controller. You can gain access to the network element or controller through manual login dialogs or through an automated process, if the network element or controller recognizes your S/DMS Network Manager userID.

You can also use the Login menu to initiate a VT100 terminal emulation session on an external device.

Options menu

The Options menu enables you to control the information display in the network and subnetwork window and to set the default preferences to display and indicate alarms. A check mark beside a command means the command is active.

Help menu

The Help menu provides background information on GNE. You can also access an on-line legend that contains examples of the graphical elements that S/DMS Network Manager uses to represent a network. The legend also shows how the graphical elements are used to indicate various conditions in your network.

GNE also provides context-sensitive help that displays a detailed explanation of the item selected in the GNE. Context-sensitive help is available for menus, commands, windows, and dialogs. The help consists of a general description of the item, followed by a more detailed description for any selectable components.

Background menu

The network and subnetwork windows both have a background menu. The background menu appears when you click the menu mouse button on a blank part of a network or subnetwork window.

The background menu enables you to add a link between network elements or groups, add a group, and save the network layout.

GNE Groups

Groups represent a collection of network elements and other groups in a system. Groups can be nested within other groups, enabling you to design a network composed of several levels of detail.

There are three group shapes: rectangle, polygon, and multipoint line. (See the following illustration.)

NM-10548.1 (R6)
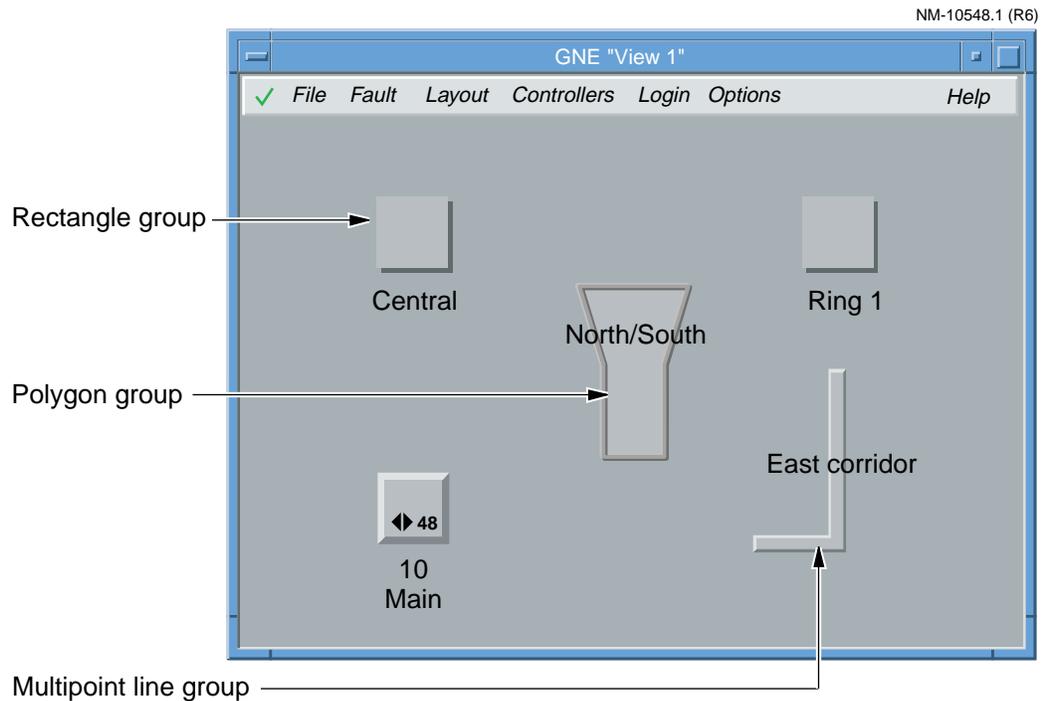
Groups can be added to a network configuration by selecting the Add Group command from the Layout menu or the background menu. When this command is selected, the Group Attributes Display dialog appears. (See the following illustration.) This dialog enables you to specify the name, shape, fill pattern, and color for a group.

Note: The font size used to display the group name is controlled using the Preferences dialog. For more information, see "Preferences" on page 1-18.

NM-10633.1

Group Display Attributes

Group name :

Shape style:

Fill style:

Group color:

| Add Group   Alt+Return | | Cancel   Ctrl+Escape |
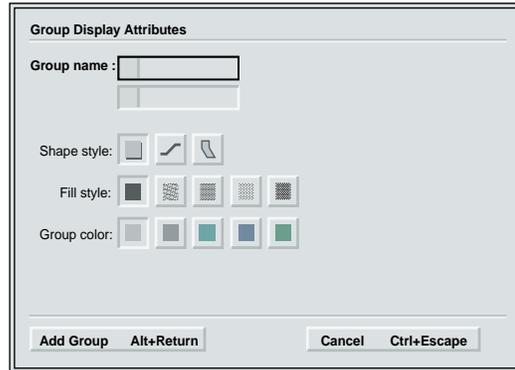
Fill patterns are translucent and do not interfere with the display of objects in the underlying network. The colors available for displaying groups are a set of pastel shades that do not interfere with the colors used to show alarm states.

Note: File patterns cannot be defined for multipoint line groups.

The group appearance can help visually differentiate the function of the network elements and subgroups within the group.

You can display the network elements and subgroups associated with a group by opening a subnetwork window. To open a subnetwork window, double-click on the group, or select the Open <group> command from the File or group object menu.

For more information on adding a group, see "Adding a group" on page 2-7.

Editing a group

You can edit the appearance of existing groups in the GNE. To edit a group, select the group and the Edit <group> command from the Layout or group object menu. When this command is selected, the Group Display Attributes dialog is displayed, highlight handles appear on the group, and an alarm balloon placeholder appears. (The alarm balloon is included so the GNE user knows how functional alarm balloons appear in the GNB.) The group changes entered in the Group Attribute Display dialog are implemented in the group after the Apply button is selected. If the shape style (rectangle, polygon, or multipoint line) is changed, the group is converted to the specified shape.

The information displayed on the face of the group can be repositioned, as well. The information includes the group name, total active alarm count, and alarm balloon placeholder. The information is moved while the group is in the edit mode. To move the information, select it with the left mouse button and drag it to the new location. The position of the information is constrained by the shape of the group. (The center of the total active alarm count must be within the perimeter of the group.)

The size or shape of a group can be changed using highlight handles that appear when the Edit <group> command is selected from the Layout or group object menu. Select a handle and drag it to the new location to change the size or shape of the group. Vertices for polygon groups and bend points for multipoint line groups can be added and deleted. A vertex or bend point is added by clicking on the line segment between two existing vertices or bend points. A vertex or bend point is deleted by selecting it and pressing the delete key on the keyboard.

For more information on Editing a group, see "Editing a group" on page 2-9.

Network elements

Network elements represent the individual elements in the system monitored by S/DMS Network Manager.

Network elements can appear in the network window and subnetwork windows. (See the following illustration.)

S/DMS Network Manager   323-4001-054   Rel 6   Standard   Nov 1996
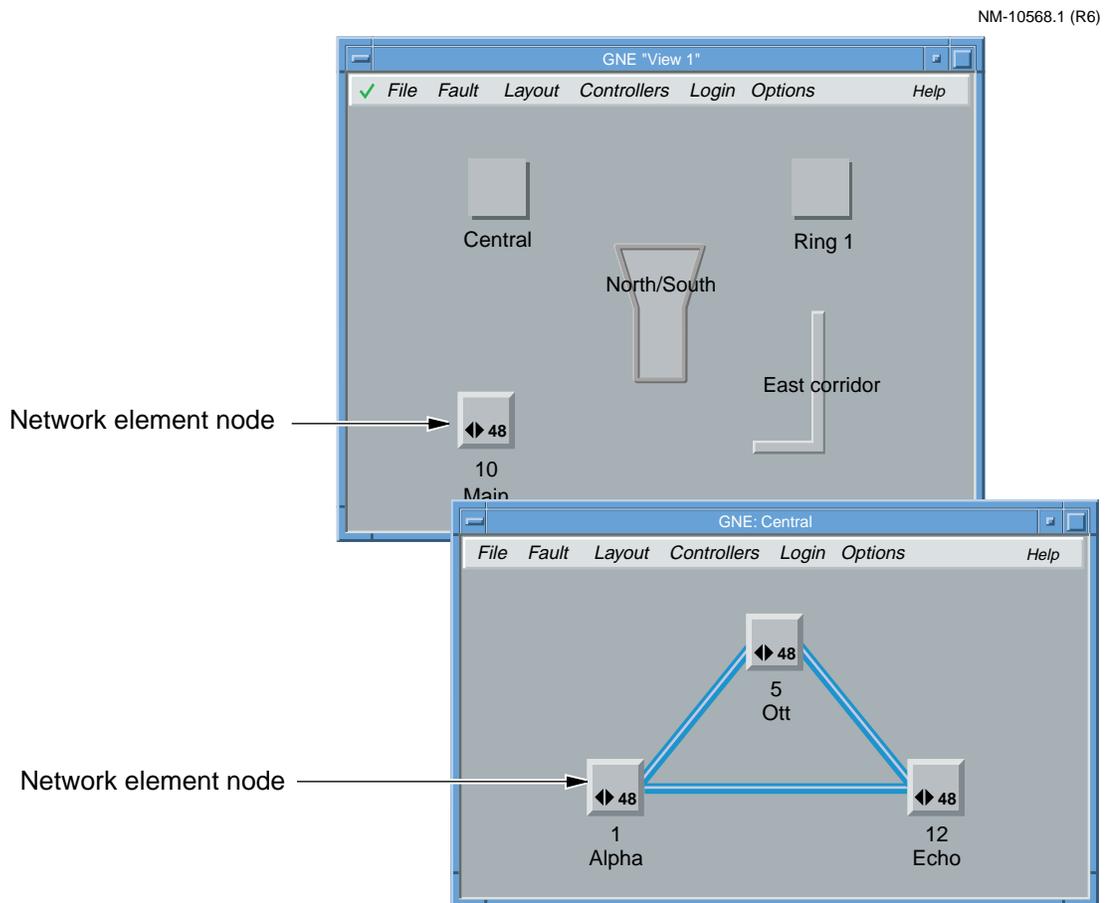
When you add a span of network elements to the network configuration, S/DMS Network Manager determines the function of each network element in the span, and automatically displays a node to represent each network element.

You can attach, modify, and delete textual annotations for network elements in GNE.

Network element size

S/DMS Network Manager uses three size designations to represent network elements. The size designations available are small, large, and variable. Network elements defined as variable can resize on demand, or in response to new alarms on the network. When a variable network element resizes, the icon changes from small to large. The large icon displays more information about that particular network element on the face of the icon.

A variable network element resizes from a large to a small display size when the alarms are acknowledged or cleared.

The following illustration shows a small and large network element.

NM-10609.1 (R6)
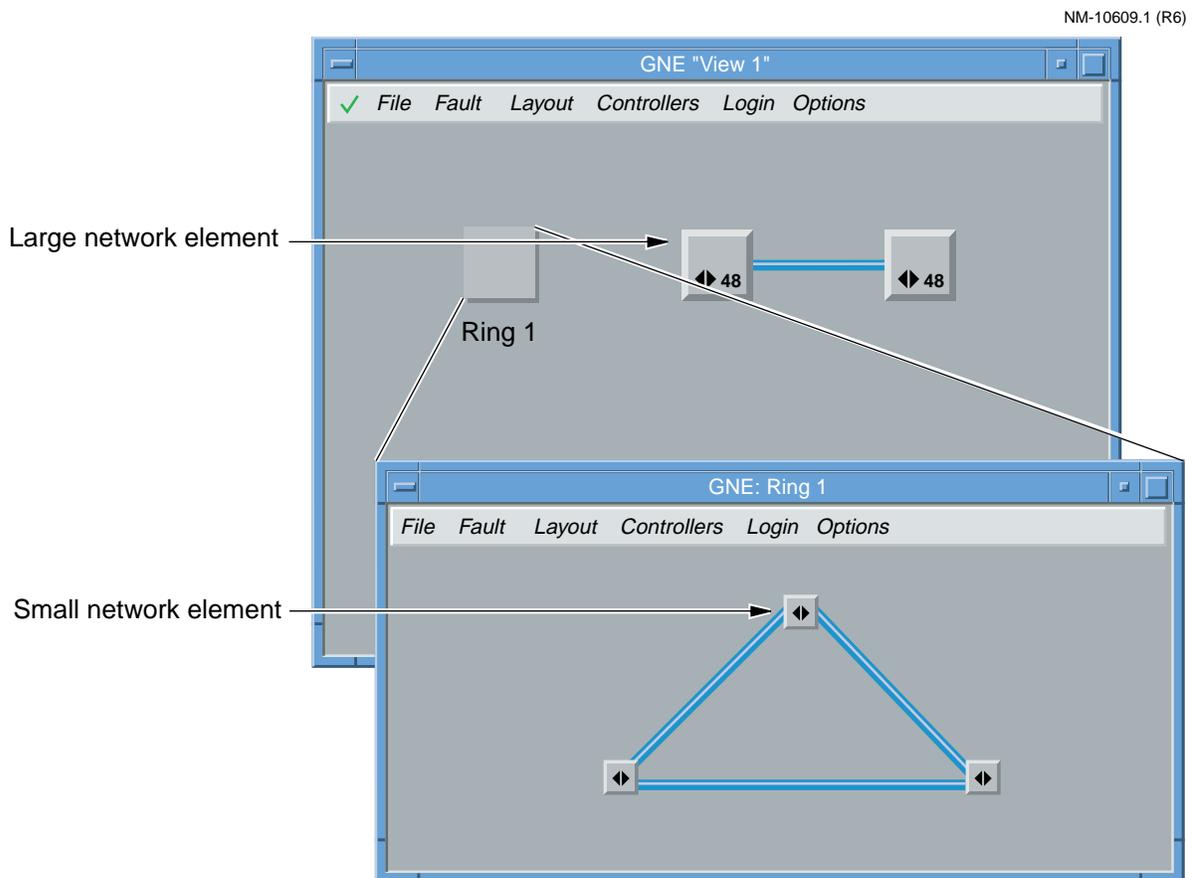
The size designation of a network element is controlled through the Preferences dialog.

Network element names and numbers

Network elements are identified by a name and number that appears directly below the node. You can change the network element name but not the number using S/DMS Network Manager. The network element number is assigned in the system. Also, you can select the size of the font used to display the network element name and number. The available sizes are small, variable, and large.

> *Note:* If you are using a dark background color to display your network, it can be difficult to read the network element name and number. Use the default background color (grey) for best visibility. This feature is controlled using the NE Names Background command in the Preferences dialog.

The display of network element names and numbers is controlled through commands in the Options menu or the Preferences dialog. If you use the Options menu, the display preferences are applied to the active window. If you use the Preferences dialog, the display preferences are applied throughout all GNE windows.

Network element graphics and labels

Information about network elements is displayed on the face of the icon. The information displayed on the icon depends on the size designation of the network element. Small network elements display a graphic that identifies the node type. Large network elements display a graphic that identifies the node type and a label that identifies the product type. The information displayed by variable network elements changes accordingly with the size designation of the network element.

> *Note:* The node type graphic on a small network element is replaced by a letter indicating the highest severity active alarm that is affecting the network element.

Node type graphics used by S/DMS Network Manager are shown in the following illustration.

NM-10643.1 (R6)

◆ S/DMS TransportNode ADM

◇ S/DMS TransportNode Regenerator

◆ S/DMS TransportNode LTE

▤ S/DMS AccessNode FCOT

⇛ S/DMS AccessNode RFT

◈ DV45 Video Codec

⊠ Tellabs Titan 5500 DCS

Transferring groups and network elements

Groups and network elements can be repositioned within the network. The middle mouse button is used to select the group or network element and drag it to the new location.

The new location for the group or network element can be within the same or different window. If the group or network element is connected to a group or network element in another window, a link continuation icon appears at the end of the link in each of the windows. For more information, see "Link continuation icons" on page 1-15.

Groups can be nested within other groups, enabling you to design a network composed of several levels of detail, however, you must ensure you do not violate group hierarchies.

Network element and group links

Links show the interconnections between individual network elements, and groups of network elements, in the system monitored by S/DMS Network Manager. You can add, change, and delete the links to create the desired display.

Links can connect groups or network elements within a single window or different windows. You cannot link groups to network elements.

Three basic types of links are used by S/DMS Network Manager to show network element and group connectivity: fiber, electrical, and control network (CNet). S/DMS Network Manager uses a different color and line pattern to distinguish the different types of links. (See the following illustration.)

NM-10551.1 (R6)
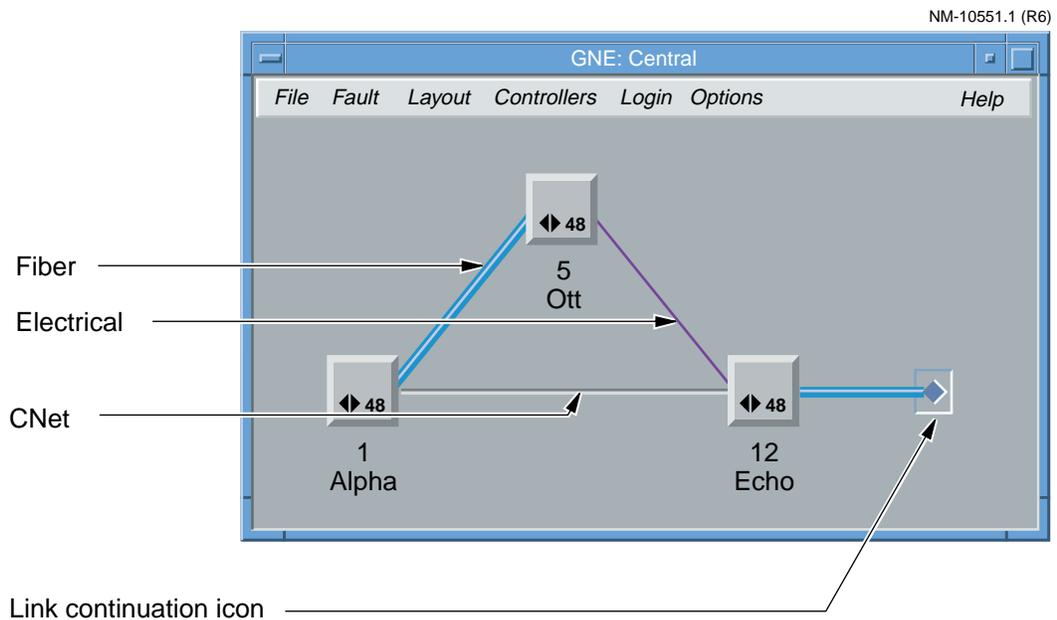
If your S/DMS Network Manager monitors a system containing a TA-1230 ring, special traffic display links connect the network elements and groups that comprise the ring. For more information, see "Ring traffic display links" on page 1-15.

Each link has an object menu that enables you to edit the annotations for a link, delete a link, or change the link type.

Note: The Change <link> to and Delete <link> commands are disabled (grayed out) if the link is part of a TA-1230 ring. For more information, see "Ring traffic display links" on page 1-15.

Connect network elements or groups dialog

The Connect Network Elements or Groups dialog allows you to create the links between network elements or groups. Links provide a graphical representation of connectivity in the system.

The Connect Network Elements or Groups dialog appears when you select the Add Link command from the Layout menu or the background menu found in the GNE network and subnetwork window. (See the following illustration.)

NM-10142.1 (R6)

For any pair of Network Elements or Groups
you wish to connect:

1) Select the link type you wish to make

Link Type:

◆ Fiber

◇ CNET

◇ Electrical

2) Click on the Network Elements or Groups
to be connected.

When you have finished connecting Network Elements,
or Groups,click on the OK button.

OK
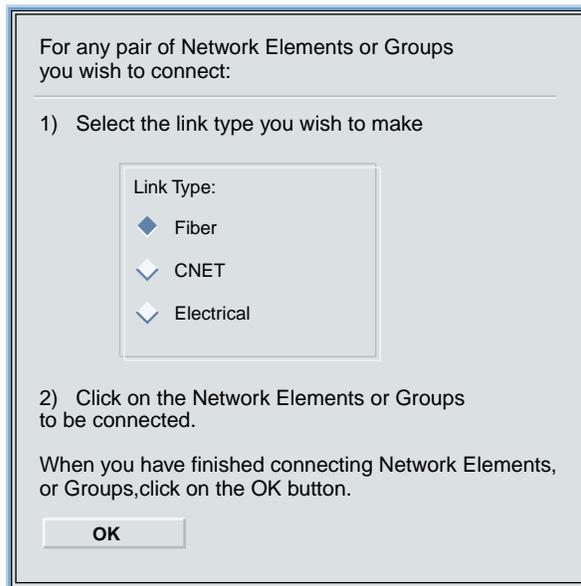
Note: Links created with S/DMS Network Manager are for display purposes only, and have no effect on the configuration or connectivity of an operational system.

When the Connect Network Elements or Groups dialog is open, the pointer changes to the shape of a hand to indicate that GNE is in the link mode. You can now select the network elements, or the groups you want connect. After selecting the second network element or group, the chosen link type appears. You cannot link groups to network elements. If you attempt to connect a group to a network element a warning beep sounds.

When connecting network elements or groups located in separate windows, a link continuation icon is automatically placed on the link, at the edge of each window containing the linked nodes. The link continuation icon indicates that the link continues to another window.

Add as many links as desired. Links become increasingly difficult to distinguish as the number increases.

When you finish adding links, select the OK button to close the dialog.

Link continuation icons

The link continuation icon identifies links that span two windows. The icon indicates that this link is connected to a network element or group in another window. To view the window that contains the remainder of the network elements or groups in the link, double-click on the link continuation icon. The other window appears on the screen. When both windows are on the screen, the link continuation icons in both windows are highlighted to show links that are related.

Move the link continuation icon anywhere within its window by selecting the icon with the Modify mouse button and dragging it to the desired location in the window.

Ring traffic display links

S/DMS Network Manageruses ring traffic display links for systems that contain a TA-1230 ring. If your S/DMS Network Manager monitors this type of system, and a representation of that ring has been created, special traffic display links show the configuration of the ring.

The traffic display links appear in GNE as thick gray lines that connect the end-point ADMs in the ring. The following illustration shows a typical GNE TA-1230 ring with traffic display links.

NM-10550.1 (R6)

Ring traffic display links
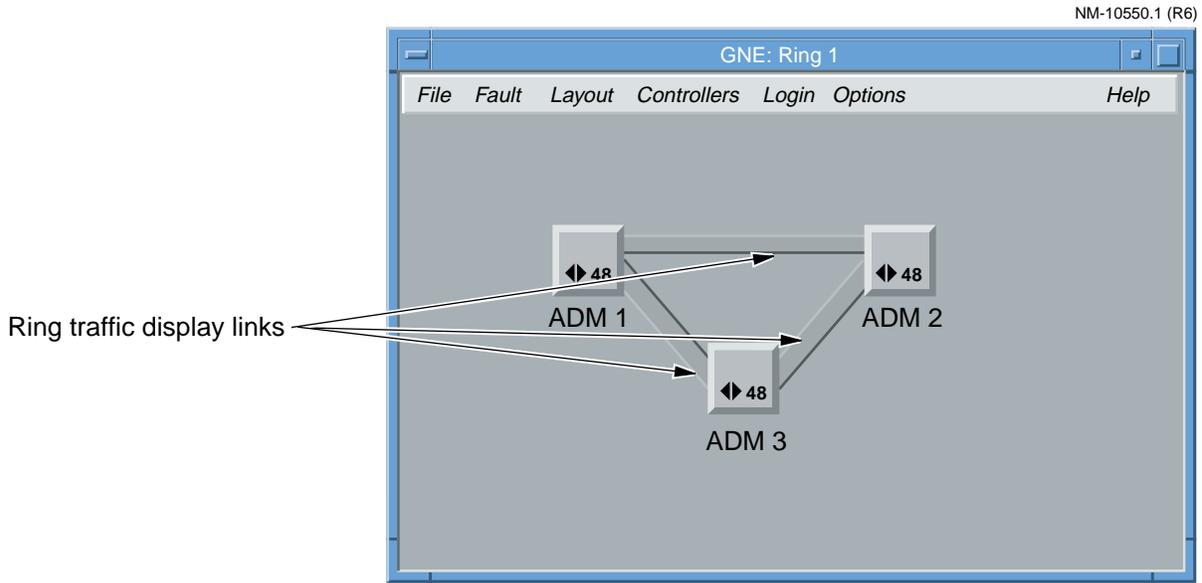
These links show the connections between the end-point ADMs in the ring. When the ring configuration is viewed on GNB, different colors and line patterns are applied to the traffic display links to show the state of the high-speed traffic and the protection status of the ring.

Configure Regenerators dialog

The Configure Regenerators dialog is used to modify the appearance of a TA-1230 ring that already exists on GNE. This dialog is available only if your S/DMS Network Manager monitors a system that contains a TA-1230 ring.

The Configure Regenerators dialog appears when you select the Attach Regenerators command from the Layout menu. (See the following illustration.)

NM-10268.1


```
Use this command to add regenerators between two ring ADMs

To add one or more regenerators:
1. Click on the first Ring ADM.
2. Click on one or more regenerators.
3. Click on the second Ring ADM.

When done, click on the OK button.

OK      Alt+Return                          Cancel      Ctrl+Escape
```
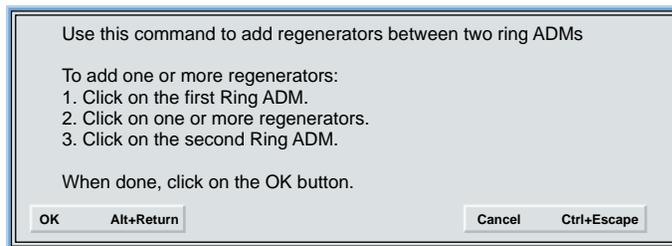
The ADMs in a TA-1230 ring can be geographically dispersed. In such a case, the adjacent ADMs in the ring are connected through a series of regenerators.

The Configure Regenerators dialog allows you to create a true representation of the TA-1230 ring by adding the regenerators to the ring configuration display. The nodes used to represent the regenerators can be small, large, or

variable-sized network elements. A graphic is used to identify network elements that are regenerators. The diamond indicates TransportNode, and the small square inside represents a regenerator. This graphic appears on the face of the network element. For more information, see "Network elements" on page 1-10.

As you add regenerators to the ring configuration, the traffic display link between the ADMs is modified to show how the link is routed through each regenerator in the ring.

You can also use this dialog to modify an existing ring configuration displayed on GNE by rerouting the traffic display link through different regenerators.

Alarm balloons

Alarm balloons in GNE are used only to aid in the placement of the groups and network elements in the window. The GNE alarm balloons do not provide any indication of alarms. (See the following illustration.)

NM-10571.1 (R6)
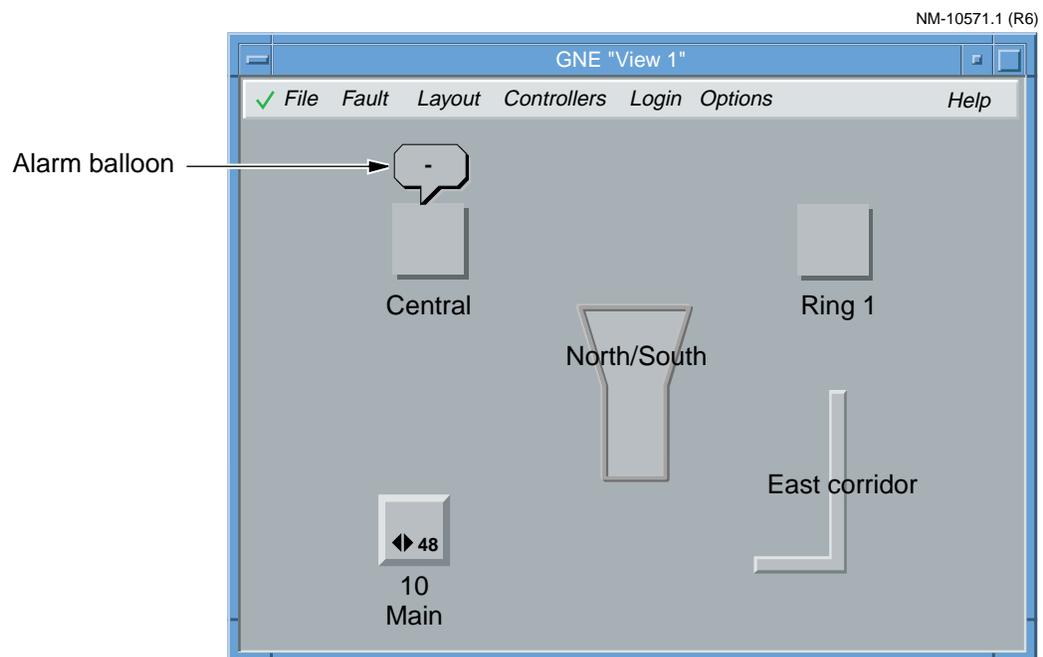
You can turn the alarm balloon display on and off by using the Display Highlighting command in the Options menu. With the balloons shown, you can tell whether the groups and network elements overlap the alarm balloons.

Network display

The network you create with GNE is saved in the S/DMS Network Manager database. This configuration is then used by the Graphical Network Browser (GNB) to display alarm information from the network elements in the system.

When you change and save a network configuration, the S/DMS Network Manager database is immediately updated. The new configuration appears on the GNB, and is used as the default for GNE and GNB until you make further changes.

The GNB can be used to override the default display preferences set in the GNE.

View selection

Multiple independent views allow you to display the network using a specific view. Network elements can be placed in different groups and can possess different connectivity in each view (with the exception of Traffic Display Links because they are not specified in the GNE and are an attribute of the network itself). Each view displays all network elements monitored by S/DMS Network Manager. Only relative positioning, connectivity, and groupings of network elements are different. Each view can have its own customized layout, group hierarchy, background maps, and default preferences.

If more than one view is available, you are prompted to select a view when the GNE is started. Use the GNE View Choice dialog for selecting a view. All GNE users have the capability of displaying any existing view. (See the following illustration.)

NM-10607.1
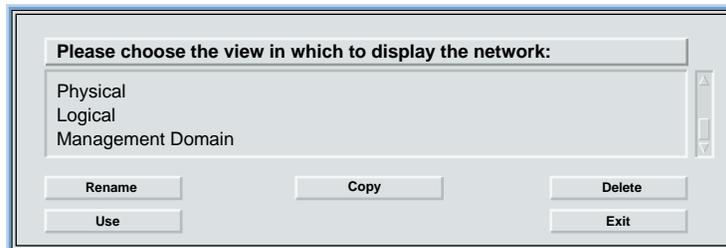
You can also use the GNE View Choice dialog to rename, copy, or delete a view.

For more information, see "Managing network views" on page 2-3.

Preferences

The GNE Preferences dialog enables you to set display options for GNE. The display options set in the Preferences dialog apply to all groups in GNE and GNB, for that view and user.

Default display preferences for GNE are hardcoded into S/DMS Network Manager. The hardcoded display preferences can be changed for a network view by resetting the preferences and selecting the OK button in the GNE Preferences dialog. The display preferences set for a view in the GNE also become the default display preferences for that view in the GNB.

To display the Preferences dialog, select the Preferences command from the Options menu. The Preferences dialog moves to the foreground if it is already open when you select this command. (See the following illustration.)

NM-10572.1 (R6)

Preferences

NE Size:	⌄ small
	⌄ variable
	◆ large
NE Font Size:	◆ small
	⌄ variable
	⌄ large
Group Font Size:	◆ small
	⌄ large
Display:	☐ NE Names
	☐ NE Numbers
	☐ NE Names Background
	☐ Group Names Background
	☐ Background Maps
	☐ Alarm Banner
Other:	☐ Alarm Beeping
	☐ Raise Root Group on Alarms
	☐ Auto Update Alarms Dialog
	☐ Use Multiple Connection Managers

OK   Apply   Cancel
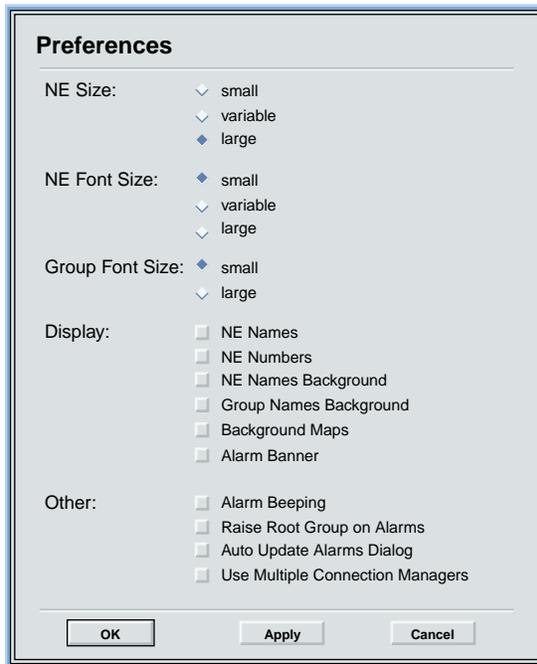
Display options in the Preferences dialog are grouped into the following classifications.

NE Size	Sets all network element node sizes to small, variable, or large.
NE Font Size	Sets the font size for the network element name and number to small, variable, or large.
Group Font Size	Sets the font size for the group name to small or large.
Display	Controls the display of the network element names and numbers, default background color (grey), background maps, and Alarm Banner.
Other	Controls how S/DMS Network Manager reacts when an alarm is raised, and provides the option of using multiple connection managers. Options for the display of alarms include an audible beep, the network window appearing over top of the other display windows, and the Alarms dialog being automatically updated.

For more information on setting network display options for the GNE, see "Configuring a network" on page 2-1.

Background maps

Background maps provide a visual reference point or context for the group and network element layout displayed in GNE and GNB. Maps are loaded into the background of a network window by selecting the Load Background Map command from the Options menu. The Load Map dialog appears when this command is selected.

NM-10635.1

Load map for : Network window

File type: ◆ all   ◇ GIF   ◇ DXF

Directory: ▶ /usr/bin/noc/maps/

Filename:

```
./
../
Arizona.gif
Canada.dxf
Canada.gif
Colorado.gif
NorthAmerica.dxf
```

OK   Alt+Return   Unload map   Cancel   Ctrl+Escape
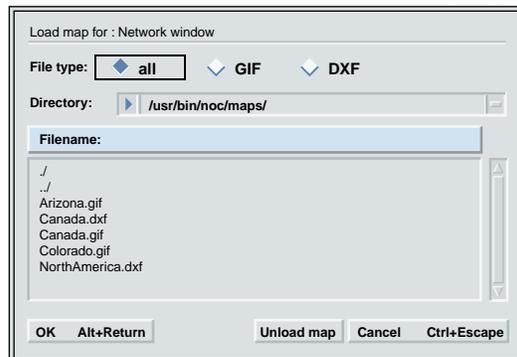
When a background map is loaded into a window, the map is displayed using a default scale and position. The GNE user can modify the scale and position of the map by using the Map Tools palette. (See the following illustration.)

NM-10611.1 (R6)

Pan Up - Move the view of the map upwards by a fixed amount.

Pan Left - Move the view of the map left by a fixed amount.

Pan Down - Move the view of the map downwards by a fixed amount.

Fit To Window - Scale and position the map so that it is entirely visible in the current dimensions of the window.

Zoom In - Scale the map by a factor of 2.

Pan Right - Move the view of the map right by a fixed amount.

Interactive Pan - Move the map by dragging an outline of the window to a new position.

Interactive Zoom - Scale and position the map by redefining the size of the window.

Zoom Out - Scale the map by a factor of 1/2.

Keyboard shortcuts are available for some of the functions in the Map Tools palette:

- f for Fit To Window
- z for Zoom Out
- Z for Zoom In
- arrow keys for Pan Up, Pan Down, Pan Left, and Pan Right

You can modify the position of all background maps. You can modify the scale of a vector-based map (DXF format). You cannot modify the scale of an image-based map (GIF format).

The map display is controlled by the Display Background Map command in the Options menu.

For more information, see "Managing background maps" on page 2-33.

Bridging controller software

The software release installed on a controller consists of application software S/DMS Network Manager for the controller, and S/DMS Network Manager server software. The server software enables S/DMS Network Manager to communicate with, and monitor, the controller.

The controllers monitored by S/DMS Network Manager must have the correct controller software installed in order to support connection management, service assurance, and facility provisioning.

> *Note:* Controller software is also known as server software.

For controllers on which S/DMS TransportNode OC-48 Rel 11, OC-3/OC-12 Rel 10, or OC-192 Rel 1 software is installed, a special bridging operation can be performed from S/DMS Network Manager to ensure that the controller can support all Release 6 features.

Bridging is the process of transferring the necessary components of the S/DMS Network Manager server software to the controller, without modifying, upgrading, or restarting the existing application software resident on the controller.

Bridging controller software is enabled (or disabled) in the Controller Details dialog when setting up the graphical network configuration with S/DMS Network Manager. Bridging can be enabled only if the controller can support connection management, service assurance, and facility provisioning. The current bridging status for each controller can be viewed in the Controller List dialog. To determine whether a controller can be bridged, and to determine the current status of bridging on a particular controller, see "Bridging status" on page 1-30.

If bridging is enabled for a controller, server software automatically transfers from S/DMS Network Manager to the controller when the new configuration is saved in GNE. For more information on enabling bridging, see "Controller Details dialog" on page 1-32.

GNE Controller List dialog

The GNE Controller List dialog shows the current status of the S/DMS Network Manager alarm collection process, and provides information about each controller being monitored by S/DMS Network Manager.

To display the Controller List dialog, select the Show List of Controllers command from the Controllers menu.
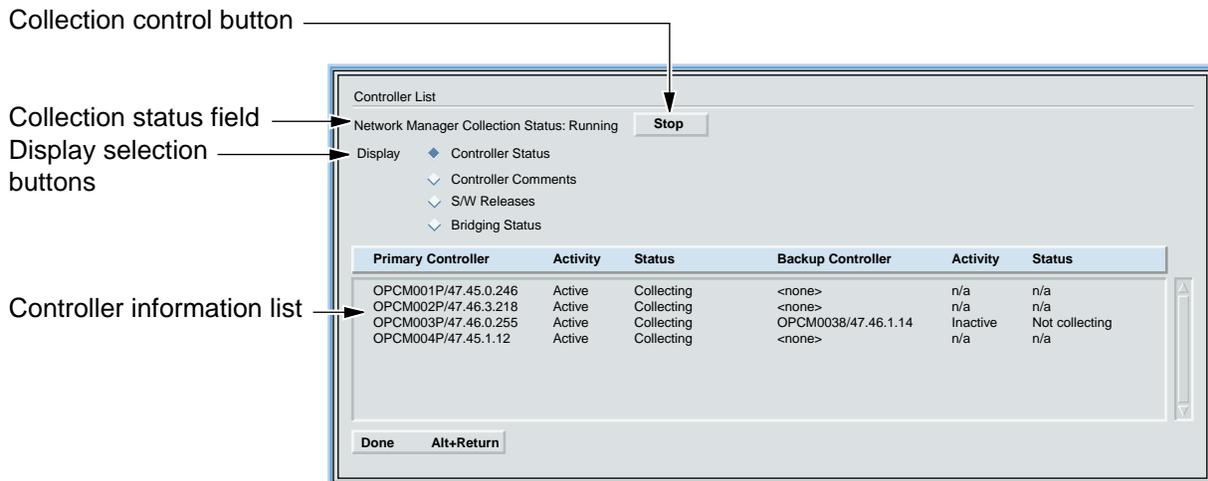
The GNE Controller List dialog contains a collection status field, a collection control button, four display section radio buttons, and a controller information list.

Note: If the name of a controller is changed, the name displayed in the Controller Details dialog is updated only when the controller is re-added to the network configuration. It is not updated dynamically.

The information contained in the controller list depends on which display selection button is selected. The controller list can show the activity and status of each controller (Controller Status button selected), a textual message relating to each controller (Controller Comments button selected), information about the software release installed on each controller (S/W Releases button selected), or bridge status and version of S/DMS Network Manager to controller software relation (Bridging status button selected).

The following illustration shows the Controller List dialog with the Display Controller Status button selected.

NM-10573.1 (R6)

Collection control button

Collection status field
Display selection buttons

Controller information list

Controller List

Network Manager Collection Status: Running   Stop

Display   ◆ Controller Status
            ◇ Controller Comments
            ◇ S/W Releases
            ◇ Bridging Status

Primary Controller	Activity	Status	Backup Controller	Activity	Status
OPCM001P/47.45.0.246	Active	Collecting	<none>	n/a	n/a
OPCM002P/47.46.3.218	Active	Collecting	<none>	n/a	n/a
OPCM003P/47.46.0.255	Active	Collecting	OPCM0038/47.46.1.14	Inactive	Not collecting
OPCM004P/47.45.1.12	Active	Collecting	<none>	n/a	n/a

Done   Alt+Return

Collection status field

The S/DMS Network Manager Collection status field indicates the current status of the alarm collection process as follows:

Running   The S/DMS Network Manager alarm collection process is operating and collecting alarms from the controllers.

Stopped   The S/DMS Network Manager alarm collection process is stopped and not collecting alarms from any controllers.

Collection control button

The collection control button is located beside the Collection Status field. The collection control button is a toggle button. It allows you to control the state of the S/DMS Network Manager alarm collection process. Each time you select the button, the alarm collection state toggles between Start and Stop. The label inside the button indicates what action you can take.

The collection control button is used only when you want to stop the S/DMS Network Manager alarm collection process. When you stop the alarm collection process, S/DMS Network Manager suspends all connections to the controllers it monitors. No alarms are collected from any controller when the alarm collection process stops, and all communication with the controllers halts. This button is used only when shutting down S/DMS Network Manager for maintenance or upgrade.

Note: Do not confuse the collection control button with the Suspend/Resume all NE Reporting to <controller> command. The command is available in the object menu for a controller list item and is used to control alarm reporting for the network elements associated with a controller.

Controller information list

The information provided in the controller information list depends on which display selection button you select. You can display the status of each controller monitored by S/DMS Network Manager, comments about each controller, the software release running on each controller, or the status of software bridging for the controller.

Controller status

When you select the Controller Status button, the controller information list provides details on each controller monitored by S/DMS Network Manager. The current activity, and the status of alarm collection and reporting for each controller is shown in the controller information list. (See the following illustration.)

NM-10513.1 (R6)

Controller List

Network Manager Collection Status: Running   **Stop**

Display   ◆   Controller Status
           ∨   Controller Comments
           ∨   S/W Releases
           ∨   Bridging Status

Primary Controller	Activity	Status	Backup Controller	Activity	Status
OPCM001P/47.45.0.246	Active	Collecting	<none>	n/a	n/a
OPCM002P/47.46.3.218	Active	Collecting	<none>	n/a	n/a
OPCM003P/47.46.0.255	Active	Collecting	OPCM0038/47.46.1.14	Inactive	Not collecting
OPCM004P/47.45.1.12	Active	Collecting	<none>	n/a	n/a

Done   Alt+Return

The list is divided into two parts: one for the primary controller and one for the backup controller. If S/DMS Network Manager monitors only one of these controllers, only that part of the list is filled in. The controller list is sorted alphabetically, according to Primary controller name.

The Controller List shows the names and IP addresses of each controller, the current activity of the controller, and the status of alarm collection and reporting from the controller.

The Activity field shows the state of operation for each controller monitored by S/DMS Network Manager. The following values can appear in the Activity field.

Active   The controller is in the active state, managing the span of network elements.

Inactive   The controller is in the inactive state, not managing the span of network elements at this time. The controller is available if needed.

OOS   The controller is out of service and is not communicating with S/DMS Network Manager.

Busy   This controller is already monitored by the maximum number of S/DMS Network Managers.

                    If you want to see which S/DMS Network Managers are monitoring this controller, select the Edit command from the Module controller status list menu. The Availability field in the resulting Controller Details dialog shows the S/DMS Network Managers monitoring the controller.

Unknown   The state of operation of the controller is unknown because S/DMS Network Manager cannot communicate with the controller.

This state can be caused by a failure of the communication link between S/DMS Network Manager and the controller, or by a user initiated action that manually stops the S/DMS Network Manager alarm collection process.

If the communication link to a controller fails, S/DMS Network Manager cannot determine the operating state of the controller.

If a user stops the alarm collection process, all communication between S/DMS Network Manager and the controllers terminates, thereby preventing S/DMS Network Manager from determining the operating state of the controller.

n/a   The Activity field is not applicable to this controller.

The Status field shows the state of the S/DMS Network Manager alarm collection process as it relates to each controller.

The alarm collection process enables S/DMS Network Manager to communicate with, and gather alarms from the controllers it monitors. If the alarm collection process is stopped, communication between S/DMS Network Manager and all controllers it monitors also stops. The following values can appear in the Status field.

Collecting	The alarm collection process is operating and S/DMS Network Manager is collecting alarms from the controller.
Not collecting	S/DMS Network Manager is not communicating with the controller, and therefore not collecting alarms from the controller. This condition might be because the controller is not active, or because a user manually stops the S/DMS Network Manager alarm collection process by selecting the collection control button.
Suspended	S/DMS Network Manager is not reporting alarms for this controller because alarm reporting has been suspended for the controller or an associated network element. An inverted triangle appears in the left-most column beside the primary controller name when alarm reporting is suspended.
Collecting/Sus	At least one, but not all network elements have suspended alarm reporting. An inverted triangle in the left-most column identifies the primary controller of the network elements with suspended alarm reporting.
Unknown	The alarm collection state is unknown because S/DMS Network Manager alarm collection process has been stopped by a user.
n/a	The Status field is not applicable to this controller.

Together, the Activity and Status fields allow you to determine the following:

- the current operating state
- the status of S/DMS Network Manager alarm collection and reporting

The normal operating state is a primary controller is in the active state, and a backup controller, if there is one, in the inactive state. If the primary and backup controllers are in any other state, an X appears in the first column on the left side of the list beside the controller name.

The following table lists and describes the possible combinations that might appear in the Activity and State fields.

Activity	State	Indicates
Active	Collecting	S/DMS Network Manager is collecting and reporting alarms from the controller. This combination indicates normal operation.
OOS	Not collecting	S/DMS Network Manager cannot collect alarms; the controller is out of service.
Busy	Not collecting	S/DMS Network Manager cannot collect alarms because the controller is already being monitored by the maximum number of S/DMS Network Managers.
Inactive	Not collecting	S/DMS Network Manager is not collecting alarms because the controller is in the inactive state. S/DMS Network Manager collects alarms only from active controllers.
Unknown	Not collecting	S/DMS Network Manager cannot collect alarms because the controller is not running a compatible version of software, or S/DMS Network Manager is trying to connect to the controller.
Any of the above	Suspended	A GNE user has manually suspended alarm reporting for this controller.
Unknown	Unknown	The S/DMS Network Manager alarm collection process has been stopped. S/DMS Network Manager cannot communicate with the controller and no alarm information can be collected or reported for the controller.

Controller comments

When you select the Controller Comments button, the controller information list shows the names and IP addresses of the primary and backup controllers, and a comment about each controller. (See the following illustration.)

NM10535.1 (R6)

Controller List

Network Manager Collection Status: Running   Stop

Display   ◇   Controller Status
           ◆   Controller Comments
           ◇   S/W Releases
           ◇   Bridging Status

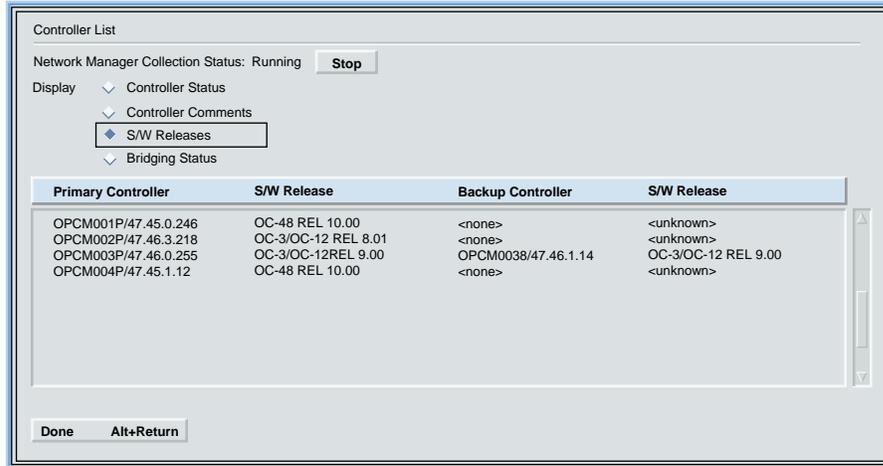| Primary Controller	Backup Controller	Controller Comments
OPCM001P/47.45.0.246	\<none\>	Central group SOC OPC
OPCM002P/47.46.3.218	\<none\>	
OPCM003P/47.46.0.255	OPCM0038/47.46.1.14	OPCM100P located in OAM shelf OAM001
OPCM004P/47.45.1.12	\<none\>	T1 to Primary OPC on CISCO 3000

Done   Alt+Return

Controller comments are recorded by GNE users when setting up the network configuration. The controller comments are optional, but provide additional information about a controller. If there are no comments for a controller, the Controller Comments field for that controller is blank. For information on recording or editing the controller comments, see "Controller Details dialog" on page 1-32.

Software releases

When you select the S/W Releases button, the controller information list shows the software release installed on each primary and backup controller monitored by S/DMS Network Manager. (See the following illustration.)
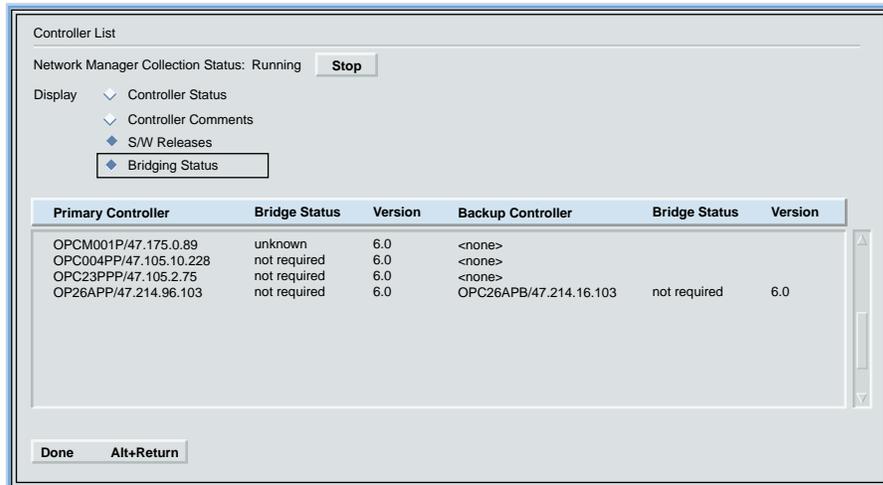
NM10536.1 (R6)

Controller List

Network Manager Collection Status: Running   [Stop]

Display   ◇ Controller Status
           ◇ Controller Comments
           ◆ S/W Releases
           ◇ Bridging Status

Primary Controller	S/W Release	Backup Controller	S/W Release
OPCM001P/47.45.0.246	OC-48 REL 10.00	<none>	<unknown>
OPCM002P/47.46.3.218	OC-3/OC-12 REL 8.01	<none>	<unknown>
OPCM003P/47.46.0.255	OC-3/OC-12REL 9.00	OPCM0038/47.46.1.14	OC-3/OC-12 REL 9.00
OPCM004P/47.45.1.12	OC-48 REL 10.00	<none>	<unknown>

[Done]   [Alt+Return]

The S/W Release column identifies the name of the product-specific software release installed on each controller. The software release name identifies the product that the software is used for (for example, OC-48), and the software version (for example, REL 10.0).

Bridging status

When you select the Bridging Status button, the controller information list shows bridging status for each controller. (See the following illustration.)

NM10574.1R6

Controller List

Network Manager Collection Status: Running   [Stop]

Display   ◇ Controller Status
           ◇ Controller Comments
           ◆ S/W Releases
           ◆ Bridging Status

Primary Controller	Bridge Status	Version	Backup Controller	Bridge Status	Version
OPCM001P/47.175.0.89	unknown	6.0	<none>		
OPC004PP/47.105.10.228	not required	6.0	<none>		
OPC23PPP/47.105.2.75	not required	6.0	<none>		
OP26APP/47.214.96.103	not required	6.0	OPC26APB/47.214.16.103	not required	6.0

[Done]   [Alt+Return]

The controllers monitored by S/DMS Network Manager must have the correct controller software installed in order to support connection management, service assurance, and facility provisioning. (Controller software is also known as server software.) If the controller does not have the appropriate server software installed, a special software bridging operation must be performed on the controller. For more information, see "Bridging controller software" on page 1-22.

The Controller List shows the names and IP addresses of each controller, the Bridging status for the controller, and the version of S/DMS Network Manager server software installed on the controller.

The Bridge Status field shows the state of the bridging process for each controller. The following values can appear in the Status field.

required	The controller needs to be bridged to enable certain S/DMS Network Manager Release 6 features.
not required	The controller does not need to be bridged because it runs a software release that supports all S/DMS Network Manager Release 6 features. Also, "not required" appears in this field if the controller runs a software release prior to OC-48 Rel 11 or OC-3/OC-12 Rel 10 that cannot be bridged.
pending	Bridging has been requested, and is about to be performed. The job is queued.
xfer in progress	Bridging files are being transferred to the controller.
install in progress	S/DMS Network Manager server software is being installed on the controller.
complete	Bridging is complete.
fail	Bridging failed and will not be retried automatically.
unknown	The bridging state of the controller is unknown.
disabled	Bridging can not be performed because bridging has been disabled by the GNE user.
another NM bridging	Another S/DMS Network Manager is bridging the controller.

The Version field identifies the S/DMS Network Manager release supported by the server software installed on the controller.

Use the Bridging Status field to determine whether the server software on the controller requires bridging to support Release 6 features.

Controller information list menu

The controller information list has a menu that allows you to log in to a controller, edit the details of a controller, and control alarm reporting for the network elements associated with a controller. This menu is available on all controller information list displays.

Controller Details dialog

The Controller Details dialog enables you to record details of the new controller that you are adding to the network configuration. You can also edit the details of an existing controller.

All Controller Details dialogs provide two separate columns of information. One column describes the primary controller, and the other is for the backup controller. Either column can be used for the primary or backup controller.

When you add a new controller, or edit the details of an existing controller, the only information you need to supply is the IP address of the controller. The remaining details automatically fill in when S/DMS Network Manager connects with the controller.

Once you select the Validate button, the IP address is checked, and the remainder of the fields in the dialog fill in with the details of the controller at that address. If recording the IP address of only one controller in the span, leave the remaining IP address field blank.

In some systems, the controllers can support two user interface formats. If so, the Login type buttons allow you to specify which format to display when a user logs into the controller. If not, these buttons are disabled.

Some controllers are not able to support all Release 6 features, but can do so if new S/DMS Network Manager server software is installed on the controller. When adding a controller, the Controller Details dialog provides you with the option of performing a bridging operation on the controller. Bridging automatically installs the required S/DMS Network Manager server software on the controller. If the controller can be bridged, the Bridging Disable radio button is selected by default. The enable and disable radio buttons are both grayed out if the controller cannot be bridged. For more information, see "Bridging controller software" on page 1-22.

The Controller comments field is an optional field that enables you to enter a comment to add to the controller details. You can enter any comment, up to 40 characters in length. The comment is displayed in the GNE and GNB Controller List dialogs when you select the Display Controller Comments button. The comment is also displayed in the GNB Controller Details dialog.

There are two different versions of the Controller Details dialog. Each dialog is described in the following sections. The version of the dialog displayed depends on the task you perform. The tasks include:

• adding a controller

• editing the details of a controller

Add a new controller

Add a new controller to a network by selecting the Add a New Controller to <group> command from the Controllers menu or group object menu. When you select this command, the Controller Details dialog appears. (See the following illustration.) The network elements are placed in the window that was active prior to accessing the Controller Details dialog. In the following illustration, the network window was active prior to initiating the addition of a controller.

NM-10518.1 (R6)

Use this command to add new Controllers to your network
Network Elements added during this operation will appear in "Top Level" (in this view).

IP Address: ▶ | IP Address: ▶ |

Validate   Validate

Controller Name: Controller Name:
Controller Function: Controller Function:
Controller S/W Load: Controller S/W Load:
Controller Availability: Controller Availability:
Network Manager Connections: Network Manager Connections:

Login Type: ◆ Display Character Session   Login Type: ◆ Display Character Session
            ◇ Display X-Window Session   ◇ Display X-Window Session

Bridging: ◇ Enabled
          ◆ Disabled

Controller Comments:

OK   Alt+Return   Apply   Cancel   Ctrl+Escape

To add a controller to a group, open the group before accessing the Controller Details dialog. The name of the group that the controller is being added to is indicated in the dialog. (See the following illustration.)
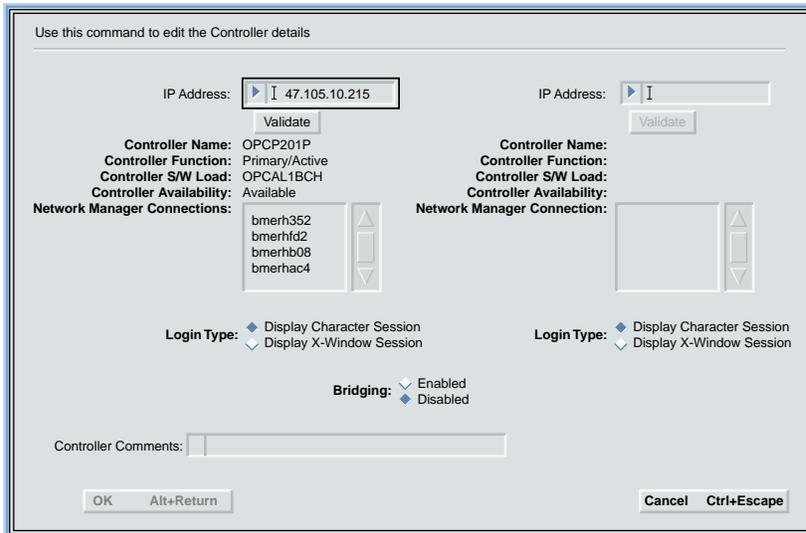
NM-10517.1 (R6)
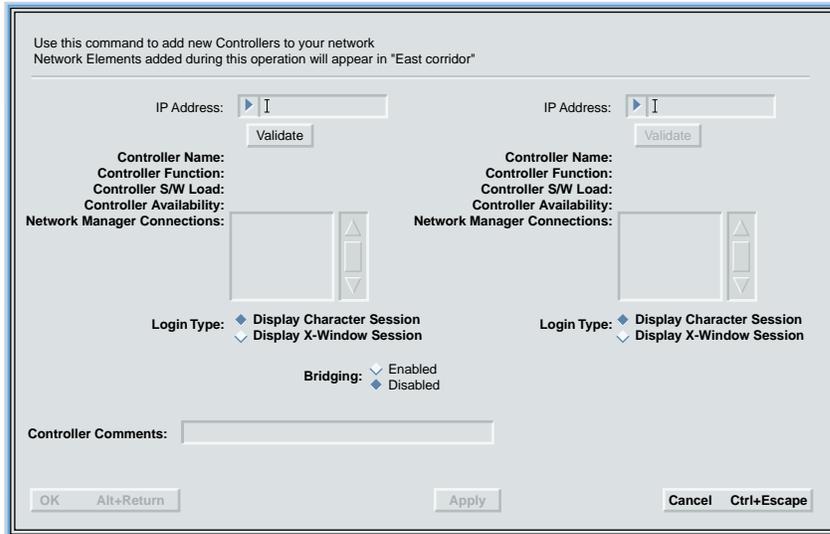
Edit a controller

To edit the details of a controller or record the IP address of a second controller in a span, choose the Edit <controller> command from the controller list menu in the Controller List dialog. When you do so, an Edit Controller Details dialog appears. (See the following illustration.)

NM-10537.1 (R6)

This Controller Details dialog provides detailed information about the controller you selected in the Controller List dialog. Use this dialog to change the IP address of a controller, or to add the IP address of a second controller if S/DMS Network Manager currently monitors only one controller in the span.

If the controller of a span changes, and you want S/DMS Network Manager to monitor the new controller, you can edit the IP addresses in the Controller Details dialog. Once you validate the new IP address, S/DMS Network Manager begins to monitor the new controller.

If S/DMS Network Manager currently monitors only a primary or a backup controller, and you want to add the IP address of a second controller, use the Controller Details dialog to record the IP address of the second controller.

You can also use this dialog to edit or add a comment about the span, or to enable or disable Bridging of the S/DMS Network Manager server software on the controller.

Configuring a network

This chapter describes how to configure a network using the Graphical Network Editor (GNE). GNE is used to create and maintain a graphical representation of the network monitored by your S/DMS Network Manager.

GNE allows you to specify the controllers that you want S/DMS Network Manager to monitor. Once this is done, you can define the topology of the network by manipulating and connecting the groups and network elements. The topology you create with GNE does not affect the network element configurations in an operating system nor does it necessarily correspond to the actual connections in the system.

The network you create with GNE is saved in the S/DMS Network Manager database. This configuration is then used by the Graphical Network Browser (GNB) to display alarm information from the network elements in the system.

When you change and save a network configuration, the S/DMS Network Manager database is immediately updated. The new configuration appears on the GNB, and is used as the default for GNE and GNB until you make further changes.

Requirements

To perform the procedures in this chapter, you must do the following:

- read the conventions described in "About this guide" on page vii
- read "Understanding GNE" on page 1-1
- ensure you have a userID and password that allow you access to GNE (admin or layout access class)
- log in to S/DMS Network Manager and open GNE. For more information, see "Logging in and opening S/DMS Network Manager tool" in *S/DMS Network Manager Connectivity*, 323-4001-053
- ensure the controllers have been properly configured. For Northern Telecom Operations Controllers (OPC), see "Configuring the OPC" in *S/DMS Network Manager Installation and Administration*, 323-4001-202

Chapter task list

The following table lists the network configuration tasks. GNE might restrict you from performing some tasks if you try to perform them out of sequence, or if the feature is not available on your S/DMS Network Manager.

Procedure 2-1
Managing network views

Use this procedure to select or create a view to display a network. Views can have custom layouts, group hierarchies, background maps, and display preferences. For example, a view can be defined that displays the network from a physical perspective, with the network elements geographically aligned with a background map.

The Graphical Network Editor (GNE) user is presented with the View Choice dialog when the session starts. The View Choice dialog allows you to use, rename, copy, or delete a view.

> *Note:* You can also select a view from the command line when starting S/DMS Network Manager. If this method is used, the View Choice dialog is bypassed. For more information, see "Logging in and opening an S/DMS Network Manager tool" in *S/DMS Network Manager Connectivity*, 323-4001-053.

The display preferences set in the GNE become the defaults for the Graphical Network Browser (GNB). The GNB user can choose new preferences, if desired.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	When you start GNE, the View Choice dialog appears. The View Choice dialog enables you to select an existing network view or create a new network view using copy and rename.
	For more information on how to start GNE, see "Logging in and opening an S/DMS Network Manager tool" in *S/DMS Network Manager Connectivity*, 323-4001-053.

If you want to	**Then**
select a view	step 2
rename an existing view	step 3
copy a view	step 8
delete a view	step 13

—continued—

Procedure 2-1 (continued)
Managing network views

Step	Action
2	Select the view in the View Choice dialog, then select the **Use View** button.
	The GNE network window is displayed using the selected view.
	Note: You can also select a view from the command line before you start GNE. For more information on, see "Logging in and opening an S/DMS Network Manager tool" in *S/DMS Network Manager Connectivity*, 323-4001-053.
	Go to step 15.
3	A view can be renamed using the View Choice dialog or the File menu in the GNE window.

If you want to	**Then**
rename a view using the View Choice dialog	step 4
rename a view using the File menu	step 5

Step	Action
4	Select the view in the View Choice dialog and select the **Rename View** button.
	The Name the View dialog appears.
	Go to step 6.
5	Display the File menu and select the **Rename View** command.
	The Name the View dialog appears.
6	Enter the new name of the view in the Name for this view field.
7	Select the **OK** button in the Name the View dialog.
	The GNE network window is displayed using the renamed view.
	Note: You can also rename a view from the command line before you start GNE. For more information on, see "Logging in and opening an S/DMS Network Manager tool" in *S/DMS Network Manager Connectivity*, 323-4001-053.
	Go to step 15.
8	A view can be copied using the View Choice dialog or the File menu.

If you want to	**Then**
copy a view using the View Choice dialog	step 9
copy a view using the File menu	step 12

Step	Action
9	Select the view in the View Choice dialog, then select the Copy View button.
	The Name the View dialog appears.
10	Enter the name of the copied view in the **Name for this view** field.

—**continued**—

Procedure 2-1 (continued)
Managing network views

Step	Action
11	Select the **OK** button in the Name the View dialog.
	The GNE network window is displayed using the copied view.
	Go to step 15.
12	Display the File menu and select the **Save View as** command.
	The view is copied and does not appear in the View Choice dialog.
	Go to step 15.
13	Select the view in the View Choice dialog and select the **Delete View** button.
	A delete confirmation dialog appears.
14	Select the **Yes, delete it** button.
	The view and associated annotations, with the exception of network element and ring traffic display link annotations, are deleted. If any GNB users are displaying the view when it is deleted in GNE, they are informed the view has been deleted. They are also given the option to switch to another view, exit the tool, or continue using the deleted view with the warning that all view specific annotations have been removed.
	Note: It is not possible to delete the last remaining view for a network. If only one view remains for the tool, the delete command is disabled (grayed out).
15	Save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—**end**—

Procedure 2-2
Viewing controller status

Use this procedure to display the status of the controllers monitored by S/DMS Network Manager. The Controller List dialog displays the current status of the S/DMS Network Manager alarm collection process, and provides information on each controller being monitored by S/DMS Network Manager. Also, you can use this dialog to control alarm collection and edit, delete, and login to controllers.

Note: If the name of a controller is changed, the name displayed in the Controller Details dialog is updated only when the controller is re-added to the network configuration. It is not updated dynamically.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the Controllers menu and select the **Show List of Controllers** command. *The Controller List dialog appears.*
2	To control the alarm reporting from a controller, or stop the alarm collection process for all controllers that S/DMS Network Manager is monitoring, see Procedure 2-18, "Controlling alarm collection". To control the alarm reporting from a network element that S/DMS Network Manager is monitoring, see Procedure 2-18, "Controlling alarm collection".
3	To edit the details of a particular controller, enter a comment about a controller, or view the software release installed on each controller, see Procedure 2-20, "Viewing and editing the details of a controller".
4	Select the **Done** button when you finish with the Controller List dialog.

—end—

Procedure 2-3
Adding a group

Use this procedure to add a group to the network or subnetwork window. Groups represent a user-defined collection of nodes. The nodes within a group can include network elements and other groups.

Groups are available in three shapes: rectangle, multipoint line, and polygon.

Groups can be nested within other groups without restriction. A group may contain a hierarchy of other groups and network elements, representing a network configuration. This feature enables you to design a network composed of several levels of detail.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Select the **Add group** command from the Layout menu.
	Note: The Add group command can also be selected from the Background menu.
	The Group Display Attributes dialog appears.
2	Enter the group name and select the shape style, fill style, and group color.
	Note 1: Group names are optional.
	Note 2: Fill style cannot be selected for multipoint line groups.
3	Groups are available in rectangle, multipoint line, and polygon shapes.

If you are adding a new	**Then**
rectangle group	step 4
multipoint line or polygon group	step 6

Step	Action
4	Select the **Add Group** button.
	An outline of the new rectangle group is attached to the mouse cursor. The Group Display Attributes dialog is closed.
	Note: The outline of the new rectangle group is only visible when the mouse cursor is above a network or subnetwork window.
5	Position the group in an S/DMS Network Manager window by clicking the left mouse button.
	Go to step 8.

<p align="center">**—continued—**</p>

Procedure 2-3 (continued)
Adding a group

Step	Action
6	Select the **Add Group** button.
	A cross-hair mouse cursor appears. The Group Display Attributes dialog is closed.
7	To define the shape of the new group, the vertices or bend points of the group must be specified using the mouse. For each vertex or bend point, position the mouse cursor in the desired location and click the left mouse button once. To complete the drawing of the group, click on the previous point, double-click on the point where you want the group to end, or select the **End** key on the keyboard.
	Note 1: The minimum number of end and bend points for multipoint line and polygon groups is 2.
	Note 2: If you have started to draw a multipoint line or polygon group, pressing the ESC key on the keyboard ends the operation without a group being added.
8	The position of a group can be changed by clicking and holding the middle mouse button on the group, and dragging the group to the new position.
	The attributes of existing groups can be edited. For more information, see Procedure 2-4, "Editing a group".
9	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—**end**—

Procedure 2-4
Editing a group

Use this procedure to edit an existing group in the S/DMS Network Manager surveillance network.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the object menu for the group you want to edit and select the **Edit \<group>** command.
	Note: The Edit \<group> command can also be selected from the Layout menu.
	The Group Display Attributes dialog appears. Also, highlight handles are applied to the vertices and bend points of the group.
2	To change the size or shape of the group, select one of the highlight handles, hold the left mouse button, drag the handle to the new location, and release the mouse button.
	The modified group appears.
	The alarm balloon, alarm summary count, and group name may need to be repositioned. See step 5.
3	You can add or delete a vertex or bend point for multipoint line and polygon groups. To add a vertex or bend point, use the left mouse button to click on a line segment between two existing vertices.
	A new vertex or bend point is added at the specified point on the line segment.
	To delete a vertex or bend point, select the highlight handle and press the **delete** key on the keyboard.
	The vertex or bend point is removed from the group.
4	The group name, shape type, fill style, and color can be changed by specifying the new value in the Group Display Attribute dialog and selecting the **Apply** button.
	The group is displayed with the modified attribute. The Group Display Attribute dialog remains open, allowing you to continue to make changes to the groups.
	Note 1: The Apply must be selected before any other changes are made.

—continued—

Procedure 2-4 (continued)
Editing a group

Step	Action
5	The alarm balloon, alarm summary count, and group name for multipoint line and polygon groups can be repositioned by selecting any one of these items, holding down the left mouse button, and dragging the item to a new location.
	Note: The total active alarm summary must be located on the group.
6	Select the **Done** button in the Group Display Attribute dialog.
	The Group Display Attribute dialog closes.
7	If necessary, reposition the remaining groups. See Procedure 2-8, "Repositioning a network element or group".
8	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

<div align="center">—**end**—</div>

Procedure 2-5
Deleting a group

Use this procedure to delete a group from the S/DMS Network Manager surveillance network. Deleting a group from S/DMS Network Manager has no affect on the working system.

S/DMS Network Manager disables (grays out) the Delete <group> command if the group contains network elements or other groups, or the group is attached to a link.

To enable the Delete <group> command for a group, you must first transfer all network elements and groups out of the group you want to delete. Also, you must remove any links attached to the group.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Move to the group you want to delete and double-click on it.
	The subnetwork window for the group appears.
2	If there are network elements or groups in the subnetwork window, transfer them to another group or window.
	For more information on transferring network elements and groups, see Procedure 2-8, "Repositioning a network element or group".
3	Delete the links attached to the group you want to delete, if any.
	For more information removing links attached to groups, see Procedure 2-10, "Modifying network element connections".
4	Select the group you want to delete.
5	Display the Layout menu and select the **Delete <group>** command.
	The group is removed from the window.
6	If necessary, reposition the remaining groups. See Procedure 2-8, "Repositioning a network element or group".
7	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—end—

Procedure 2-6
Adding a new controller

Use this procedure to add a new controller, and all network elements associated with that controller, to S/DMS Network Manager. This procedure allows you identify the controllers you want S/DMS Network Manager to monitor, and to build a network configuration.

A span is a collection of network elements that use the same controller. When you add a span, you establish a connection between S/DMS Network Manager and the controller of the network elements. This connection allows S/DMS Network Manager to communicate with the controllers, and collect alarm information from the network elements. The connection also allows S/DMS Network Manager users to log in to the controller.

A controller is added to a system using the Controller Details dialog. The controller is added to the window that was active prior to opening this dialog. A controller can also be added to a group by selecting it before opening the Controller Details dialog.

> *Note:* If the name of a controller is changed, the name displayed in the Controller Details dialog is updated only when the controller is re-added to the network configuration. It is not updated dynamically.

On some controllers, two types of user interface are available: an X Window user interface and a character mode terminal (CMT) user interface. While adding a span, you can specify which format to use as the default when a user logs in to the controller.

If a controller runs an S/DMS TransportNode OC-48 Rel 11 or 12, or OC-3/OC-12 Rel 10 or 11, a bridging operation must be performed on the controller to enable the connection management and service assurance features. Bridging transfers and updates the S/DMS Network Manager server software on the controller. When enabled, bridging is automatically performed when the controller is added to the network configuration. No changes are made to the controller application software during the bridging operation, and bridging has no effect on the performance of the controller. Controllers running an earlier software release cannot be bridged.

Procedure 2-6 (continued)
Adding a new controller

> **CAUTION**
> **Risk of malfunction**
> S/DMS Network Manager files include three tar files,
> COPC17BL_..., COPC17BM_..., and COPC17BO_....
> These files are required any time software bridging is
> performed. Do not delete these files.

Note: The file transfers involved in software bridging may take some time
to complete.

Additional Requirements

In addition to the requirements described on page 2-1, the following condition
must be satisfied to complete this procedure:

• ensure you know the IP addresses of the primary and backup controllers

Action

Step	Action
1	Select the window or group where you want to add the new controller.
2	Select the **Add a New Controller to <group>** command from the Controller menu.
	Note: You can also select the Add a New Controller to <group> command in the group object menu.
3	The Controller Details dialog appears.
	There can be two controllers in a span: a primary controller and a backup controller. Use the Controller Details dialog to record the IP addresses of each of these controllers.
	Note: The IP Address field on the right of the dialog is disabled.
4	Enter the IP address of the primary controller in the IP Address field on the left side of the dialog.
	Note: The IP address has the form n.n.n.n, where n is a number within the range of 0 to 255.
5	Select the **Validate** button located under the IP Address field.
	S/DMS Network Manager attempts to communicate with the entity at the specified IP address. If the specified IP address contains a S/DMS Network Manager controller, the details of that controller appear below the IP Address field.
	If you made an error entering the IP address, or the address is not valid, an X appears next to the IP Address field and an error dialog appears.

—continued—

Procedure 2-6 (continued)
Adding a new controller

Step	Action
6	To add a secondary controller, select the IP Address field on the right side of the dialog, enter the IP address of the controller, and select the **Validate** button.
	S/DMS Network Manager attempts to communicate with the entity at the specified IP address.
	If the specified IP address contains a controller, details of that controller appear below the IP Address field. Otherwise, an X appears next to the IP Address field to indicate an error.
	Note 1: It is not mandatory to record the IP address of both the primary and the backup controller. However, if you record only one IP address, and a problem occurs in that controller, S/DMS Network Manager is not able to provide alarm information for the network elements in that span.
	Note 2: If you record only the IP address of the backup controller, the backup controller must be active. S/DMS Network Manager cannot collect alarm information from an inactive controller. The primary and backup controllers must be associated with the same span. Do not add primary and backup controllers from different spans.
	Note 3: Use the same Controller Details dialog to add primary and backup controllers to the same span.
7	Move to the Login Type area and select the button corresponding to the default user interface to be displayed when a user logs in to the controller.
	Note 1: If a controller provides only one type of user interface, only the button for that user interface is enabled; the other button is disabled (grayed out).
	Note 2: If you select the Display X Windows Session as the default user interface, users can override the default and display a character session user interface when they log in to the controller. If you select Display character session as the default, users cannot override the default.
8	Controllers running OC-48 Rel 11 or 12, or OC-3/OC-12 Rel 10 or 11 software release must be bridged before the connection management and service assurance features can be used. Controllers running an earlier software release cannot be bridged.
	If the controller you are adding runs an OC-48 Rel 11 or 12, or an OC-3/OC-12 Rel 10 or 11 software release, the Bridging buttons are activated. By default, the **Disable** button is selected. To enable bridging of the controller, select the **Enable** button.
	Note: Bridging is performed only when the new S/DMS Network Manager configuration is saved. The file transfers involved in software bridging may take some time to complete.

—continued—

Procedure 2-6 (continued)
Adding a new controller

Step	Action
9	Move to the Controller Comments field, and enter a comment for the controller.
	Note: You can enter any comment up to 40 characters in length, in this field. Controller comments are optional, but are used to provide additional information about a controller.
10	The buttons at the bottom of the Controller Details dialog allow you to add a single new controller or a number of new controllers.

If you want to	**Then**
add only one new controller	step 11
add multiple new controllers	step 12
cancel the operation	step 13

Step	Action
11	Select the **OK** button in the Controller Details dialog.
	The Controller Details closes, and the network elements associated with the new controller appear at the specified location.
	Go to step 14.
12	Select the **Apply** button.
	The network elements associated with the new controller appear in the specified window. The Controller Details dialog remains on the screen allowing you to continue adding new controllers.
	Go to step 4.
13	Select the **Cancel** button to remove the Controller Details dialog.
14	The network elements are placed at the bottom of the window in the specified location. To move the network elements to a new position, see Procedure 2-8, "Repositioning a network element or group".
15	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—end—

Procedure 2-7
Deleting a controller

Use this procedure to delete a controller from the S/DMS Network Manager surveillance network. Deleting a controller from S/DMS Network Manager has no affect on the working system.

This procedure removes the controller entry in the Controller List dialog. The communication link between S/DMS Network Manager and the controller is dropped and S/DMS Network Manager is no longer able to collect alarms from that controller.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the Controllers menu and select the **Show List of Controllers** command. *The Controller List dialog appears.*
2	Select the controller you want to delete and display the Controller List dialog list menu. *The controller information is highlighted and the Controller List dialog list menu appears.*
3	Select the **Delete** command. *A delete confirmation dialog appears.*

> **CAUTION**
> Make sure that this controller is the one you want to delete before confirming the deletion.

Step	Action
4	Select the **Yes** button in the Delete Confirmation dialog to confirm the deletion. *The network elements associated with the controller are removed from the network configuration.*
5	If necessary, reposition the remaining groups. See Procedure 2-8, "Repositioning a network element or group".
6	When you finish making changes, save the new S/DMS Network Manager configuration. For more information, see Procedure 2-21, "Saving or reverting the configuration".

—end—

Procedure 2-8
Repositioning a network element or group

Use this procedure to transfer network elements and groups between windows, and move network elements and groups within their current window.

This procedure allows you to build a customized surveillance network that contains a user-defined arrangement of network elements and groups. It is not necessary for the network elements in the same span to be located in the same group.

> *Note:* The configuration you create by transferring network elements and groups has no affect on the working system.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Activate the **Display NE numbers, Display Names** and **Display Highlighting** commands in the Options menu to assist in the placement of the network elements and groups.
	A number, name, and highlighting appear on each network element and group.
	Note: Network element display size can change when you select the Display Highlighting command. For more information on the display size of network elements, see Procedure 2-14, "Changing the network element icon display size".
2	If required, open the subnetwork window containing the group or network element you want to move or transfer.
	The subnetwork window for the selected group appears.
	Note: You must open multiple subnetwork windows if the group is located in a nested hierarchy.
3	If you are transferring a network element or group, ensure that the subnetwork window receiving the nodes is open.
4	Move the pointer over the network element or group you want to move or transfer and hold down the middle mouse button.

—**continued**—

Procedure 2-8 (continued)
Repositioning a network element or group

Step	Action
5	Drag the pointer to the position you want the network element or group to appear.
	A ghost image of the selected group or network element moves with the pointer to show the new position.
	You can move the network element or group within the current window, or transfer them to a window already open on the screen.
	Note: Ensure that you do not violate group hierarchies when moving groups. S/DMS Network Manager indicates if the transfer of a group results in incorrect nesting.
6	Release the mouse button once you are satisfied with the position of the group or network element.
	The group or network element appears in its new position.
	If any links are attached to the network element that you are moving or transferring, the links are automatically redrawn. Links to other windows are identified by a link continuation icon on the end of the link.

NM-10624.1
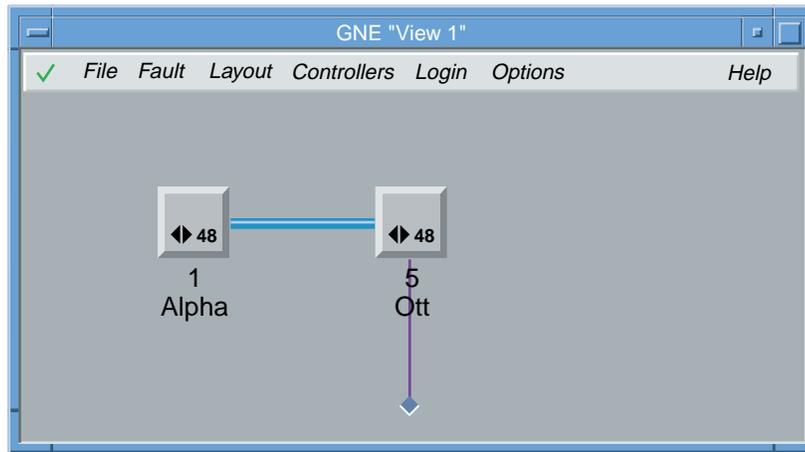
Step	Action
7	The alarm balloon, alarm summary count, and group name may need to be repositioned if group displays overlap. For more information, see Procedure 2-4, "Editing a group".
8	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—**end**—

Procedure 2-9
Connecting groups and network elements

Use this procedure to add connections between groups or network elements. These connections are called links. Three types of links are used by S/DMS Network Manager: fiber, electrical, and control network (CNet).

This procedure allows you to connect groups and network elements, creating a representation of the connectivity in the system. Groups or network elements can be connected within the same window, or to a group or network element in a different window.

> *Note:* Links cannot be added between groups and network elements. If you attempt to connect a group to a network element, a warning beep sounds.

If your S/DMS Network Manager monitors a system that contains a TA-1230 ring, GNE automatically creates a graphical representation of the ring.

> *Note:* The link types described in this procedure are suggestions only. You can connect the groups and network elements in any manner you like. Connecting the groups and network elements on GNE has no effect on the configuration of the system. The links in GNE are used only as a graphical representation of group and network element connectivity in the working system. To perform STS connection provisioning operations, see "Provisioning and editing connections" in *S/DMS Network Manager Connection Management*, 323-4001-057.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the window(s) containing the network elements or groups you want to connect.
2	Display the background menu and select the **Add Link** command.
	Note: These commands are also available in the Layout menu of the network and subnetwork windows.
	The Connect Network Elements dialog appears.
3	Select the radio button that corresponds to the type of link you want to use to connect the groups or network elements.

—**continued**—

Procedure 2-9 (continued)
Connecting groups and network elements

Step	Action
4	Move the pointer to the window containing the first group or network element you want to connect.
	The pointer changes to the shape of a hand to indicate that GNE is in the connect mode.
5	Select the first group or network element in the link.
	The border color of the selected group or network element changes color to remind you which group or network element that you are connecting. The hand pointer changes direction to indicate that you still have to pick another group or network element.
6	Select the second group or network element in the link.
	Note: You must select a pair of groups or network elements to create a link. You can select groups and network elements located in different windows. If you do so, GNE places a link continuation icon at the end of the link in each window.
	A link appears between the two selected groups or network elements and the border is removed from the first group or network element. The pointer changes to the initial hand shape.
	Note: If you attempt to connect a group to a network element, a warning beep sounds, and no link is created.
7	The Connect Network Element dialog remains on the screen. To continue adding links, go to step 3.
	When you finish connecting groups or network elements, select the **OK** button to close the Connect Network Element dialog.
	Note: You can add as many links to a group or network element as you like. However, the links become increasingly more difficult to distinguish as the number of links increases.
8	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

<div align="center">**—end—**</div>

Procedure 2-10
Modifying network element connections

Use this procedure to modify the links between network elements. This procedure allows you to change a link type or delete a link.

If your S/DMS Network Manager monitors a system that contains a TA-1230 ring, and a representation of that ring is displayed on your S/DMS Network Manager, you can modify the ring configuration. To modify the ring configuration, see Procedure 2-13, "Adding or deleting regenerators on a ring configuration".

> *Note:* The link types described in this procedure are suggestions only. The network element links shown on GNE have no effect on the configuration of the system. They are used only as a graphical representation of network element connectivity in the working system. To add connections between network elements, see Procedure 2-9, "Connecting groups and network elements".

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	If necessary, display the subnetwork window containing the link you want to modify by double-clicking on its group.
	A separate subnetwork window appears for each group selected.
	Note: If a link continuation icon appears at the end of the link, and you want to see which network elements are on this link, double-click on the icon to display the window containing the remainder of the link.
2	Select the link you want to modify and display the object menu.
	The link is highlighted and the object menu appears.
3	You can change the link type, or you can delete the link.

If you want to	**Then**
change the link type	step 4
delete the link	step 6

Step	Action
4	Move the pointer to the **Change <link> to** command in the object menu.
	A cascade menu appears.

<div align="center">—continued—</div>

Procedure 2-10 (continued)
Modifying network element connections

Step	Action
5	Select the desired link type from the Change <link> to cascade menu.
	The link changes to whatever type of link you select. The menu and highlight are removed from the link.
	Go to step 7.
6	Select the **Delete <link>** command from the object menu.
	The selected link disappears.
	Note: The Change <link> to and Delete <link> commands can also be initiated using the Layout menu in the network and subnetwork window.
7	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—**end**—

Procedure 2-11
Displaying link continuations

Use this procedure to display network elements that are linked together, but located in different windows.

S/DMS Network Manager uses a link continuation icon to identify network element links that span two or more windows. The link continuation icon is a pointer located at the end of a link. The icon indicates that this link continues into another window.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Move to a window containing a link continuation icon.
	The link continuation icon is the diamond shaped icon at the end of a link.
2	Double-click on the link continuation icon.
	A second subnetwork window appears. This window contains the remainder of the network elements in the selected link. The link continuation is highlighted by a related link icon.

NM-10625.1
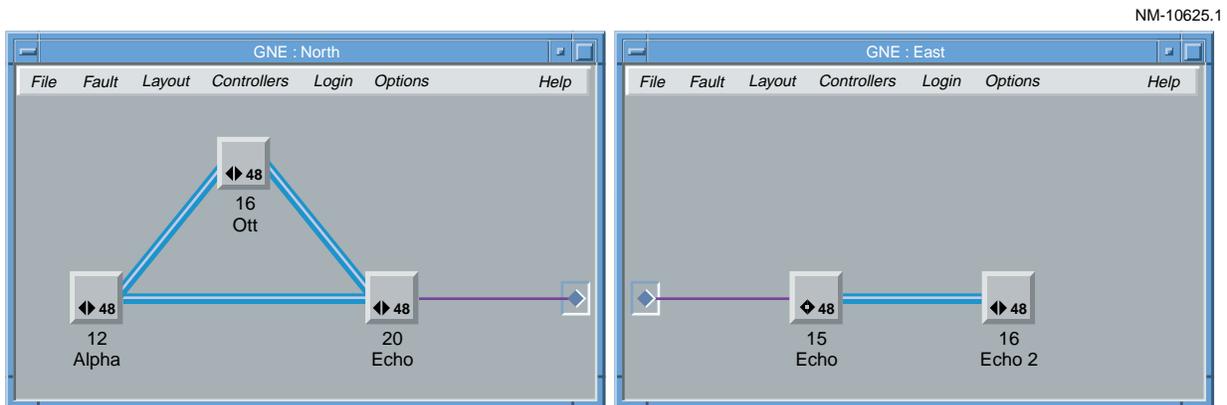
—end—

Procedure 2-12
Arranging link continuation icons

Use this procedure to move the link continuation icons. These icons identify links that continue in another window.

Link continuation icons can be moved anywhere within their current window.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Double-click on the group that contains the link whose continuation icon you want to move.
	A separate subnetwork window appears for each group selected.
2	Move the pointer over the link continuation icon you want to move, hold down the middle mouse button, and drag the pointer to the position where you want the link continuation icon to appear.
	A ghost image of the selected icon moves with the pointer to show the new position.
3	Release the mouse button once you are satisfied with the position of the link continuation icon.
	Note: You cannot move link continuation icons outside their current window.
	The link continuation icon appears in its new position.
4	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—end—

Procedure 2-13
Adding or deleting regenerators on a ring configuration

Use this procedure to add or delete regenerators to the traffic display link between adjacent ADMs in a TA-1230 ring configuration.

When a regenerator is added, this procedure allows you to build up a true representation of the TA-1230 ring so that GNB users can monitor the ring traffic, alarms, and protection status.

Note: Use this procedure only if your S/DMS Network Manager monitors a system that contains a TA-1230 ring.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	To add or delete a regenerator, select the appropriate traffic display link.
	The traffic display link is highlighted.
2	Display the Layout menu and select the **Attach Regens to <Traffic Link>** command.
	The Configure Regenerators dialog appears.

NM-10268.1

Use this command to add regenerators between two ring ADMs

To add one or more regenerators:
1. Click on the first Ring ADM.
2. Click on one or more regenerators.
3. Click on the second Ring ADM.

When done, click on the OK button.

| OK | Alt+Return | | Cancel | Ctrl+Escape |
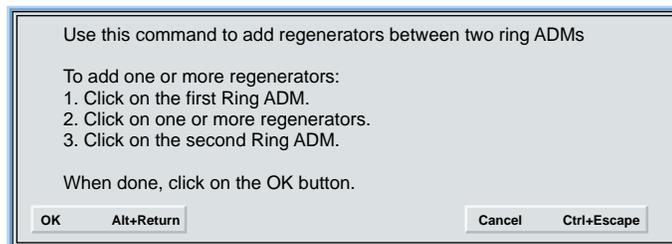
Note: The Attach Regens to <Traffic Link> command is disabled if a TA-1230 ring is not currently displayed on GNE.

3

If you are	**Then**
adding a regenerator	step 4
deleting a regenerator	step 8

—continued—

Procedure 2-13 (continued)
Adding or deleting regenerators on a ring configuration

Step	Action
4	Move to the window that contains the first of the adjacent ADMs that you want to add a regenerator between, and click on the ADM.
	The selected ADM is highlighted.
5	Move to the window that contains the regenerator you want to connect to the ADM and click on it.
	A traffic display link is added between the first ADM and the regenerator.
	Note: If the ADMs and regenerators are located in different windows, a link continuation icon is added at the end of the ring traffic display link in each window.
6	Continue selecting the regenerators that are part of the link between the adjacent ADMs in the ring.
	When you select a regenerator, a ring traffic display link appears on the regenerator. Any previous links, for example fiber links, are replaced by the ring traffic display link.
	Note: Select only the regenerators that are actually used in the ring. S/DMS Network Manager does not verify that the selected regenerators are part of the ring configuration. If you select any object other than a regenerator, a beep sounds.
7	After you select the last regenerator, move to the second of the adjacent ADMs and click on it.
	Note: The adjacent ADMs in a ring are a matched pair. Make sure you select the appropriate ADM when completing the line configuration. If you select the wrong ADM, a beep sounds.
	The original ring traffic link between the adjacent ADMs is removed, and a new ring traffic link is routed through the regenerators to the ADMs.

—continued—

Procedure 2-13 (continued)
Adding or deleting regenerators on a ring configuration

Step	Action

NM-10626.1

```
┌─────────────────────────────────────────────────────────────┐
│ ▭                     GNE "View 1"                      ▫ □  │
├─────────────────────────────────────────────────────────────┤
│  File   Fault   Layout   Controllers   Login   Options   Help│
│                                                              │
│                           ┌────┐                             │
│                           │◆ 48│                             │
│                           └────┘                             │
│                             15                               │
│                            Echo                              │
│         ┌────┐                              ┌────┐           │
│         │◀▶48│                              │◀▶48│           │
│         └────┘                              └────┘           │
│         ADM 1                               ADM 2            │
│                                                              │
│                           ┌────┐                             │
│                           │◀▶48│                             │
│                           └────┘                             │
│                           ADM 3                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```
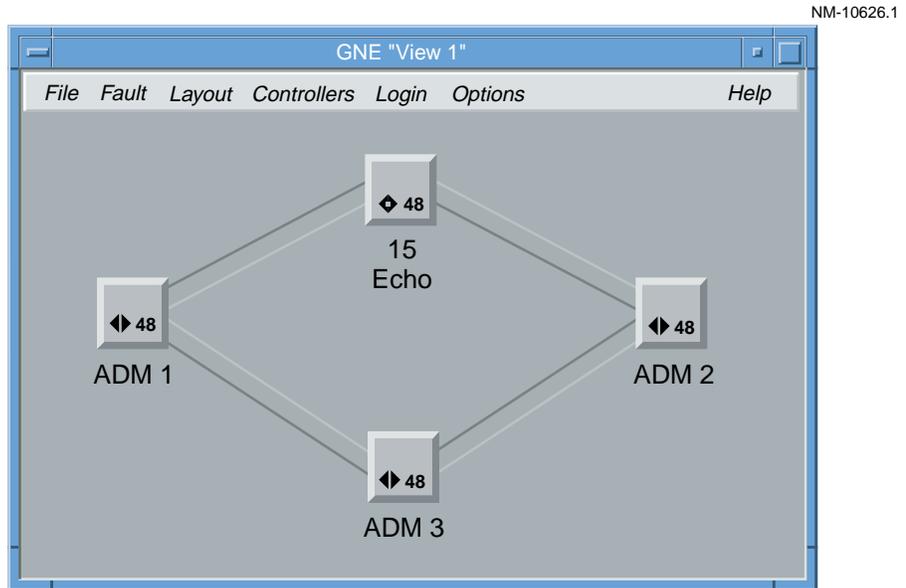
Go to step 10

8   Move to the first ADM on the link and click on it.

The selected ADM is highlighted.

9   Move to the second ADM on the same link and click on it.

The direct traffic link between the two ADMs is established. The regenerators are removed from the traffic display link.

10   You can cancel the changes you made to the ring configuration, continue adding regenerators between the other ADMs in the ring, or you can end the regenerator configuration.

If you want to	**Then**
add or delete regenerators	step 1
end the regenerator configuration	step 11
cancel the changes made to the ring configuration	step 12

11   Select the **OK** button to implement the changes you made to the ring configuration.

The Configure Regenerators dialog is removed.

Go to step 13.

—**continued**—

Procedure 2-13 (continued)
Adding or deleting regenerators on a ring configuration

Step	Action
12	Select the **Cancel** button in the Configure Regenerators dialog.
	The Configure Regenerators dialog is removed from the display. Any regenerators you added between adjacent ADMs are removed.
	The Configure Regenerators dialog is removed from the display.
13	When you finish configuring the regenerators, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

<div align="center">**—end—**</div>

Procedure 2-14
Changing the network element icon display size

Use this procedure to change the size designation of icons used to represent network elements on the S/DMS Network Manager screen.

S/DMS Network Manager can display network elements using three size designations: small, variable, or large. When you use the Preferences dialog to change the network element size designation, the network elements in all windows change to the selected size. The network element size designation set in the GNE Preferences dialog becomes the default value for the GNB. However, the GNB can be used to override the default display preferences set in the GNE.

For more information on network elements and the information associated with the icon display size, see "Understanding GNB" in *S/DMS Network Manager Fault Management*, 323-4001-055.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the Options menu and select the **Set Preferences** command.
	The Preferences dialog appears.
2	Select the network element size designation using the NE Size radio buttons.
3	Select the **OK** button.
	The network elements change to the selected size designation in the GNE session.
4	When you finish making changes, save the new S/DMS Network Manager configuration.
	The network element size specified in the Preferences dialog becomes the default display for that view in the GNB.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—**end**—

Procedure 2-15
Controlling the display of the name or number of an object

Use this procedure to control the display of group names and network element names and numbers. You can display or hide the name and number of network elements. Also, you can control the font size and background color used to display group names and network element names and numbers.

> *Note:* The name and number of a network element cannot be hidden if the network element has an active alarm.

If the names and numbers for a network element are hidden, they are redisplayed when a new alarm is raised on the network element.

Display preferences set in the GNE become the defaults for the GNB. The GNB user can reset the default display preferences, if necessary.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	When you first start GNE, the group and network element names and the network element numbers are shown.

If you want to	**Then**
display or hide the names or numbers for the network elements in an individual window	step 2
display or hide the names or numbers for the network elements in all windows	step 3
set the font size for group names and network element names and numbers	step 6
set the background color for group names and network element names and numbers	step 9

> *Note:* A check mark next to a command indicates the command is active. When a command is active, the display option specified is implemented for the selected window range.

—continued—

Procedure 2-15 (continued)
Controlling the display of the name or number of an object

Step	Action
2	Display the Options menu in the desired window and select the **Display NE Names** or the **Display NE Numbers** command.
	The names or numbers for network elements are displayed or removed from the specified window.
	Go to step 11.
3	Display the Options menu and select the **Set Preferences** command.
	The Preferences dialog appears.
4	Select the **NE Names** or the **NE Numbers** check button.
5	Select the **OK** button.
	The names or numbers for all network elements are displayed or removed.
	Go to step 11.
6	Display the Options menu and select the **Set Preferences** command.
	The Preferences dialog appears.
7	Select the font size using the NE Font Size and the Group Font Size radio buttons.
	Note: The font size setting is independent of the network element size. However, if the font size is set to variable, the font changes in response to the network element activity.
8	Select the **OK** button.
	The font size is changed in all windows.
	Go to step 11.
9	Display the Options menu and select the **Set Preferences** command.
	The Preferences dialog appears.
10	Select **Group Names Background** or the **NE Names Background** check buttons.
	The background color for group names and network element names and numbers is changed to grey.
11	Display preferences set using the Preferences dialog replace the display preferences set using the check commands in the Options menu.

—end—

Procedure 2-16
Attaching, editing, and deleting annotations

Use this procedure to attach several lines of text to a network element, group, or link. You can also use the procedure to edit or delete existing annotations.

The Annotations dialog contains the name of the object selected and an edit field with a background menu and cut and paste capabilities. A scroll bar in the dialog enables you to view the entire annotation.

Annotations attached to an object in GNE are visible in GNB when the Annotations dialog for the object is displayed.

Note: If there are multiple links of the same type (fiber, electrical, or CNet) between two groups or two network elements, the annotations are the same for each link.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Select the desired network element, group, or link.

If you want to	**Then**
attach or edit an annotation	step 2
delete an annotation	step 4

Step	Action
2	Display the File menu and select the **Edit Annotations** command.
	The Annotations dialog appears.
	Note: You can also display the Annotations dialog by displaying the object menu and selecting the **Edit Annotations** command, or by holding down the Shift key while clicking on the object.
3	Enter the annotation text in the text field and select the **OK** button.
	The annotation is attached or modified for the selected object.
	Go to step 5.
4	Display the File menu and select the **Delete Annotations** command.
	The annotations are deleted for the selected object.
	Note: The Delete Annotations command is enabled only after the new or edited annotations are saved as part of an S/DMS Network Manager configuration. To save the configuration display the File menu and select the Save command.
5	You have completed this procedure.

—end—

Procedure 2-17
Managing background maps

Use this procedure to load, scale, position, and display background maps.

Background maps can be displayed for an individual window, or set for all windows in the session.

> *Note:* The display preferences set in the GNE become the defaults for the GNB. The GNB user can reset the default display preferences, if desired.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	When you first start GNE, background maps are not shown in the network and subnetwork windows.

If you want to	**Then**
load a background map	step 2
position and scale a background map	step 5
display or hide a background map for an individual window	step 8
display or hide a background map for all windows	step 9

> **Note:** A check mark next to a command indicates the command is active. When a command is active, the display option specified is implemented for the selected window range.

Step	Action
2	Display the Options menu and select the **Load Background Map** command.
	The Load Map dialog appears.
	File type buttons enable you to limit the files displayed for the current directory. Map files supported by S/DMS Network Manager are vector-based (DXF format) and image-based (GIF format).
	The Directory field indicates the current directory. The contents of the directory are displayed in the Filename list. The field also has a chooser menu that enables you to select a directory from previously used paths.
3	Select a directory in the Filename list by double-clicking on the directory
	The contents of the selected directory is displayed in the Filename list.

—**continued**—

Procedure 2-17 (continued)
Managing background maps

Step	Action
4	Choose a map file and select the **OK** button.
	Note: A map file can also be selected and implemented in a window by double-clicking on the file in the Filename list.
	The map file is loaded into the selected window. The Map Tools palette automatically appears after a map is successfully loaded into a window.
	The user is notified if the specified directory or filename is invalid.
	Note: A background map can be removed from a window by selecting the **Unload map** button.
	Go to step 6.
5	Open Map Tools palette by displaying the Options menu and selecting the **Display Map Tools** command.
	The Map Tools palette appears.
	Note: The Display Map Tools command is active only if a background map is displayed in the selected window.
6	Position and scale the map using the buttons in the Map Tools palette. For more information, see "Background maps" on page 1-20.
	Note: The position of all background maps can be modified. However, only the scale of a vector-based map (DXF format) can be modified. It is not possible to modify the scale of an image-based map (GIF format).
7	Display the File menu in the Map Tools palette window and select the **Close** commands.
	Go to step 13.
8	Display the Options menu in the desired window and select the **Display Background Map** command.
	If a check mark appears beside the Display Background Map command, the background map is displayed in the selected window.
	Go to step 13.
9	Display the Options menu and select the **Set Preferences** command.
	The Preferences dialog appears.
10	Select the **Background Maps** command.
	A check mark indicates that the command is active.
11	Select the **OK** button.
	If the Background Maps command is active in the Preferences dialog, background maps in all windows are displayed.
	Note: The display preferences set using the Preferences dialog replace the display preferences set using the check commands in the Options menu.

—**continued**—

Procedure 2-17 (continued)
Managing background maps

Step	Action
12	When you finish making changes, save the new S/DMS Network Manager configuration.
	For more information, see Procedure 2-21, "Saving or reverting the configuration".
13	You have completed this procedure.

—**end**—

Procedure 2-18
Controlling alarm collection

Use this procedure to stop or start the S/DMS Network Manager alarm collection process.

If you stop the alarm collection process, S/DMS Network Manager is unable to communicate with any controllers in the network. Alarms are not collected from any controllers.

The alarm counts and traffic display information shown on GNB become unreliable because S/DMS Network Manager does not collect any new alarms from the controllers it monitors.

When you restart the alarm collection process, S/DMS Network Manager resumes communication with the controllers. The alarm counts and traffic display information shown on GNB is updated.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the Controllers menu and select the **Show List of Controllers** command.
	The Controller List dialog appears.
2	The button beside the Collection Status field allows you to control the S/DMS Network Manager alarm collection process. The label inside this button toggles between **Stop** and **Start**, each time you select it. The label shows the action you can take.

If you want to	**Then**
stop the alarm collection	step 3
start the alarm collection	step 5

Note: When you stop the alarm collection, S/DMS Network Manager stops monitoring all controllers. All communications between S/DMS Network Manager and the controllers also stops.

—continued—

Procedure 2-18 (continued)
Controlling alarm collection

Step	Action
3	Select the **Stop** button.
	A confirmation dialog appears.
	Note: If you make changes to the configuration, you are prompted to save the changes before S/DMS Network Manager will allow you to stop the alarm collection. For more information, see Procedure 2-21, "Saving or reverting the configuration".
4	Select the **Yes** button in the confirmation dialog to stop the S/DMS Network Manager alarm collection process.
	To indicate that communication between S/DMS Network Manager and all controllers has been stopped, the S/DMS Network Manager Collection status field changes to Stopped. All group and network element nodes change to blue, and the network window status icon changes to a red X.
	Go to step 6.
5	Select the **Start** button.
	S/DMS Network Manager attempts to restart its collection process. During this time, S/DMS Network Manager reestablishes communication with each controller.
	As communication is reestablished, the group and network element nodes change from blue to gray. Once S/DMS Network Manager can communicate with all controllers, and there are no problems, the status icon changes back to a green check mark.
6	When you finish with the Controller List dialog, select the **Done** button.

—**end**—

Procedure 2-19
Controlling alarm reporting

Use this procedure to suspend or resume alarm reporting for an individual network element, or all network elements associated with a controller. When alarm reporting is suspended, S/DMS Network Manager continues to collect alarms from the network elements. All alarms raised by the network elements appear in the GNB when alarm reporting is resumed.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Alarm reporting can be suspended for an individual network element or all network elements associated with a controller.

If you want to	**Then**
suspend alarm reporting for an individual network element	step 2
resume alarm reporting for an individual network element	step 4
control alarm reporting for all network elements associated with a controller	step 6

Step	Action
2	Select the network element for which you want to suspend alarms.
3	Display the object menu for the network element and select the **Suspend Reporting for <ne>** command.
	Note: This command is also available in the Fault menu.
	Alarm reporting is suspended for the selected network element. A not reporting notation (NR) appears inside the network element.
	The network window status icon changes to an inverted yellow triangle.
	Go to step 11.
4	Select the network element for which you want to resume alarms.

—**continued**—

Procedure 2-19 (continued)
Controlling alarm reporting

Step	Action
5	Display the object menu for the network element and select the **Resume Reporting for <ne>** command.

Note: This command is also available in the Fault menu.

Alarm reporting from the selected network element resumes. The not reporting (NR) notation is removed from inside the network element. Alarms recorded by the network element during the time that the reporting was suspended are displayed on GNB.

If the network window status icon remains an inverted yellow triangle after you resume alarm reporting for a network element, there is another network element for which alarm reporting is suspended. Resume alarm reporting for that network element if desired.

Go to step 11. |
| **6** | Display the Controllers menu and select the **Show List of Controllers** command.

The Controller List dialog appears. |
| **7** | Select the controller whose alarm reporting you want to suspend or resume, and display the Controller List dialog list menu.

The Controller List dialog list menu appears. |
| **8** | The Controller List dialog list menu contains a command that allows you to suspend and resume the alarm reporting for the selected controller. This command toggles between Suspend all NE Reporting for <controller> and Resume all NE Reporting for <controller>, each time you select it. The command shows the action you can take on the selected controller. |

If you want to	**Then**
suspend alarm reporting for the selected controller	step 9
resume alarm reporting for the selected controller	step 10

—**continued**—

Procedure 2-19 (continued)
Controlling alarm reporting

Step	Action
9	Select the **Suspend all NE Reporting for <controller>** command.

Note 1: You cannot suspend alarm reporting for a network element if the S/DMS Network Manager alarm collection process has been stopped. For more information, see Procedure 2-18, "Controlling alarm collection".

Note 2: Controllers that have suspended alarm reporting are shown at the top of the Controller List dialog list.

An inverted triangle appears in the column on the far left of the Controller List dialog beside the controller name. The Status field for the controller changes to Suspended indicating alarms are not being reported on GNB for this controller.

The network window status icon changes to an inverted yellow triangle.

A not reporting notation (NR) appears inside the network elements reporting to the selected controller.

Go to step 11.

Step	Action
10	Select the **Resume all NE Reporting for <controller>** command.

Alarm reporting from the selected controller resumes. Alarms recorded by the controller during the time that the reporting was suspended are displayed on GNB.

The inverted triangle is removed from the controller entry in the Status list, and the status icon in the network window changes back to a green check mark if alarm reporting is operating for all other controllers.

If the network window status icon remains an inverted yellow triangle after you resume alarm reporting for a controller, there is another controller for which alarm reporting is suspended. Resume alarm reporting for that controller if desired.

The not reporting (NR) notation is removed from the network elements reporting to the selected controller.

Step	Action
11	When you finish with the Controller List dialog, select the **Done** button.

—**end**—

Procedure 2-20
Viewing and editing the details of a controller

Use this procedure to view and, if necessary, edit the details of the controllers that S/DMS Network Manager monitors. The Controller List dialog provides detailed information about the status of each controller. The Controller List dialog enables you to determine the state of the S/DMS Network Manager alarm collection process and the alarm reporting from individual controllers.

The Controller List dialog can also be used to view the comments that other users have entered for a controller, to determine the software release installed on each controller monitored by S/DMS Network Manager, and to view the bridging status of a controller.

> *Note:* The Bridging Status button is not used for TL1 MOA controllers.

By editing the details of a controller, you can add a controller, change the IP address of a controller, record a comment for the controller, or enable bridging of the controller.

On some controllers, two types of user interface are available: an X Window user interface and a character mode terminal (CMT) user interface. This procedure allows you to select one of these formats as the default user interface for a controller. The default user interface is displayed when a user logs in to the controller.

Additional Requirements

In addition to the requirements described on page 2-1, the following condition must be satisfied to complete this procedure:

•   ensure you know the IP addresses of the controllers you are adding

Action

Step	Action
1	Display the Controllers menu and select the **Show List of Controllers** command.

The Controller List dialog appears. The dialog lists each controller monitored by S/DMS Network Manager.

—continued—

Procedure 2-20 (continued)
Viewing and editing the details of a controller

Step	Action
2	The Controller List dialog enables you to view the status of each controller, comments entered by GNE users about a controller, the software release installed on a controller, or the software bridging status of a controller. You can also use the Controller List dialog to view or edit the details of a particular controller.

If you want to	**Then**
view the status of a controller	step 3
view the comments for a controller	step 4
view information about the software releases installed on a controller	step 5
view the software bridging status of a controller	step 6
view or edit controller details	step 7

Step	Action
3	Select the **Display Controller Status** button.
	The Controller List dialog shows the activity and status of each controller.
	The Collection Status field shows the current status of the S/DMS Network Manager alarm collection process. The possible values are Running and Stopped.
	The Status column shows the current status of alarm reporting for each controller that S/DMS Network Manager monitors.
	Go to step 2.
4	Select the **Display Controller Comments** radio button.
	The Controller List dialog displays the comments entered for each controller.
	Go to step 2.
5	Select the **Display S/W Releases** radio button.
	The Controller list displays the software releases installed on each controller.
	Go to step 2.
6	Select the **Bridging Status** radio button.
	The Controller list displays the controller server software bridging status for each controller.
	Go to step 2.
7	Select the controller whose details or comments you want to view or edit and display the Controller List dialog list menu.
	The Controller List dialog list menu appears.
8	Select the **Edit** command.
	The Controller Details dialog appears. The right side of the dialog is marked as n/a (not applicable.

<div align="center">—**continued**—</div>

Procedure 2-20 (continued)
Viewing and editing the details of a controller

Step	Action
9	You can edit the details of a controller (change the IP address) or edit a comment about the controller, or enable bridging on certain controllers.

If you want to	**Then**
close the Controller Details dialog	step 10
change the IP address of the controller	step 11
edit the controller comment	step 13

10   If you are only viewing the details of the controller, and you do not want to make changes, select the **Cancel** button to close the Controller Details dialog, then select the **Done** button to close the Controller List dialog.

Go to step 15.

11

CAUTION
Risk of losing configuration data
Change the IP address of a controller only after the controller is replaced by a new controller.

The new controller must control the same span of network elements as the old controller, otherwise the configuration data for the span may be lost.

To change the IP address of the controller, move the pointer to the IP Address field, and edit the field as required.

Note: Do not edit the IP address if you want S/DMS Network Manager to monitor a different controller. Instead, delete the controller if necessary, then add the other controller.

12   Select the **Validate** button located under each IP Address field.

S/DMS Network Manager attempts to communicate with the entity at the specified IP address.

If the specified IP address contains a controller, details of that controller appear. Otherwise, an X appears next to the IP Address field to indicate an error. A message dialog explaining the error appears.

If the error message appears, check that the IP address is correct.

When validation is successful, the Controller List dialog updates with the details of the new controllers.

Go to step 14.

—**continued**—

Procedure 2-20 (continued)
Viewing and editing the details of a controller

Step	Action
13	Move to the Controller Comments field, and enter or edit the comment for the selected controller.
	Note: You can enter any comment up to 40 characters in length. Controller comments are optional, but are used to provide additional information about a controller. If there are no comments for a controller, the Controller Comments field for that controller is blank.
14	Select the **OK** button in the Controller Details dialog.
	The Controller Details dialog is removed.
15	When you finish making changes, save the new S/DMS Network Manager configuration.
16	For more information, see Procedure 2-21, "Saving or reverting the configuration".

—**end**—

Procedure 2-21
Saving or reverting the configuration

Use this procedure to save changes to the network configuration, or to revert back to the last saved configuration.

All changes to the network configuration during the current session are visible on the GNE as soon as you make them. The changes are not recorded in the database or implemented on the GNB until you save the configuration.

The GNB screens are updated each time you save the GNE configuration. Avoid frequent saves because each save causes the GNB screens to update, which can be distracting to network surveillance personnel.

You may decide not to implement changes you made to the network configuration. The revert option allows you to discard all changes made since you last saved the configuration, or since you started the current session, whichever is more recent.

If you exit GNE before saving, you are prompted to either save or discard your changes before exiting GNE. If this dialog appears, see "Exiting GNE" in *S/DMS Network Manager Connectivity*, 323-4001-053.

Before starting this procedure, read "Requirements" on page 2-1.

Action

Step	Action
1	Display the network window File menu.
	The File menu appears.
2	You can save the changes to the configuration or you can revert to the configuration that was last saved.

If you want to	**Then**
save the configuration	step 3
revert to the configuration that was last saved	step 4

—**continued**—

Procedure 2-21 (continued)
Saving or reverting the configuration

Step	Action
3	Select the **Save** command.
	The configuration database and the network shown on GNB are immediately updated. This configuration becomes the default configuration. Until you make further changes, and save them, this configuration is used by GNE and GNB each time that the tool is started.
	Go to step 6.
4	Select the **Revert** command.
	A dialog appears asking you to confirm that you want to revert to the last saved configuration.
5	Select the **Yes** button.
	The last saved configuration appears in the window.
6	You can now continue using GNE or exit the tool.

—**end**—

List of terms

ABM

    Access Bandwidth Manager

ADM

    add-drop multiplexer

alarm

    a condition, such as a fault, that sends a signal to an indicator

AN

    S/DMS AccessNode

ASCII

    American Standard Code for Information Interchange

balloon

    a balloon-shaped object that appears on a node to indicate alarm counts

BLSR

    bidirectional line switched ring

CCITT

    Consultative Committee on International Telegraphy and Telephony

CLFI

    Common Language Facility Identifier

CMT

    character-mode terminal

CNet

    control network

CPC

    corporate product code

CPG

circuit pack group

CSM

centralized software management

DARPA

Defense Advanced Research Projects Agency

DDS

digital data storage (tape)

DMS

Digital Multiplex System

DMS MAP

Digital Multiplex System Maintenance Access Position

DV45

Digital Video Codec

EDA

external device access

ftp

file transfer protocol

GNB

Graphical Network Browser

GNE

Graphical Network Editor

group

a logical collection of network elements

GUI

Graphical User Interface

highlighting

the graphical application of color to a node to indicate a certain alarm severity

HP

Hewlett-Packard

HP VUE

Hewlett-Packard Visual User Environment

indicator

an audible or visible alert to an alarm or status condition

ISO

International Standards Organization

LAN

local area network

log in

the action of opening a user interface element

log out

the action of closing a user interface element

LTE

line terminating equipment

MAPCI

Maintenance and Administration Position Command Interpreter

menu

a list of action options

menu bar

the portion of the graphical user interface that contains the status indicator, and the window menus

MOA

Managed Object Agent

network element (NE)

a collection of equipment at one location that functions and is administered as a single entity

node

graphic object representing groups or single network elements

NTP

Northern Telecom Publication

NUM

Network Upgrade Manager, an OPC tool

OAM&P

operations, administration, maintenance, and provisioning

OC-3

optical signal carrier level 3 (at 155.520 Mb/s)

OC-12

optical signal carrier level 12 (at 622.080 Mb/s)

OC-48

optical signal carrier 48 (at 2488 Mb/s)

OC-192

optical signal carrier 192 (at 9953.280 Mb/s)

OPC

operations controller

OSI

Open Systems Interconnect

PEC

product engineering code

PM

performance monitoring

SAM

System Administration Manager

S/DMS

Synchronous/Digital Multiplexing System

SOC

span of control

SONET

Synchronous Optical Network is a standard for optical transport that defines optical carrier levels and their electrical equivalent for synchronous transport signals. The SONET standard allows for a multivendor environment, positioning the network to transport new services, synchronous networking, and enhanced operations, administration, maintenance and provisioning (OAM&P).

span

all network elements under the control of a single operations controller (OPC)

STS-1

Synchronous Transport Signal (at 51.84 Mb/s)

subnetwork

a graphical collection of objects organized into groups to represent the network elements monitored by S/DMS Network Manager.

system

network elements associated with the same payload

TA-1230 ring

Bellcore standard for SONET BLSR Equipment Criteria, TA-NWT-001230 (issue 2)

TCP/IP

Transmission Control Protocol/Internet Protocol

UDLC

Universal Digital Loop Carrier

UI

user interface

USM

User Session Manager

VTBM

Virtual Tributary Bandwidth Management

window

a rectangular area of a display screen used to contain a particular application

WAN

wide area network

X.25

CCITT protocol used for wide-area packet switching. OSI Data communication standard

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SONET Transmission Products

S/DMS Network Manager
Configuration

NØRTEL
NORTHERN TELECOM