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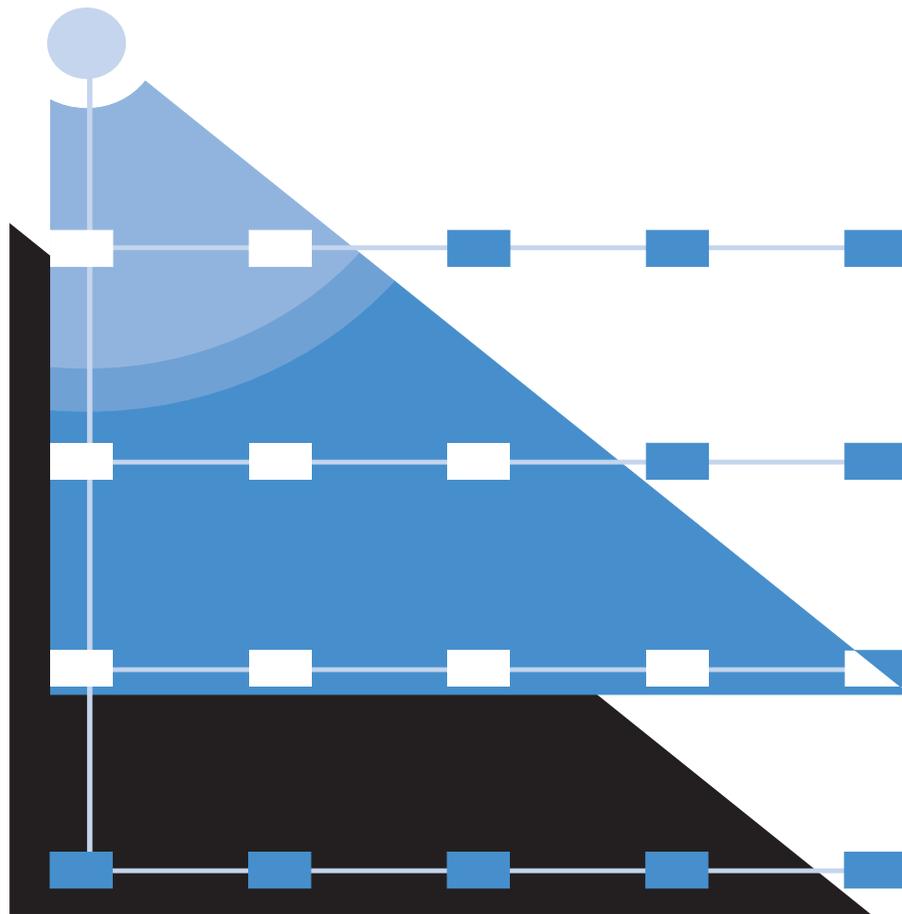
323-4001-059

SONET Transmission Products

S/DMS Network Manager

Software Management

Update to document release: Rel 6 Standard November 1996
NTP Update Publication date: April 1997



NORTEL
NORTHERN TELECOM

Record of NTP Update package(s)

Network Manager Rel 6 Issue 01, April 1997

The NTP Update Network Manager Rel 6 Issue 01 is issued for the following reason:

- OC-3 Express support

Record of changed pages

The following pages of document Rel 6 Standard have been revised for:

NTP Update Network Manager Rel 6 Issue 01

NTP number	Pages modified	Pages added	Pages reissued (no changes)
323-4001-102	1-1, 1-5, 1-33, 1-49, 1-51	1-37.1, 1-37.2	1-2, 1-6, 1-34, 1-37, 1-38 1-50, 1-52
323-4001-053	Replace entire book		
323-4001-055	2-19		2-20
323-4001-059	1-7 2-1, 2-5		1-8 2-2, 2-6

SONET Transmission Products

S/DMS Network Manager

Software Management

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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 document

This book describes controller and network element software management for the S/DMS Network Manager Release 6 software.

Who should read this book

This book is intended for people who must retrieve and display performance data for the network elements monitored by S/DMS Network Manager.

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 bootstrapping 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:

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

For technical support from 8 a.m. to 10 p.m.

Call the following toll-free number:

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

Southern Region

Northern Telecom Inc.
5555 Winward Parkway, Suite B,
Alpharetta, Georgia 30201-3895
(404) 661-4000

Central Region

Northern Telecom Inc.
475 Martingale Road
Schaumburg, Illinois 60173
(708) 706-8000 or 8389

Pacific Region (North)

Northern Telecom Inc.
2305 Camino Ramon
San Ramon, California 94583
(510) 867-2000

Pacific Region (South)

Northern Telecom Inc.
300 North Lake Avenue
Pasadena, California 91101
(818) 584-2000

Northeast Region

Northern Telecom Inc.
200 Summit Lake Drive
Valhalla, New York 10595
(914) 773-2559

Western Region

Northern Telecom Inc.
5575 DTC Parkway, Suite 150
Englewood, Colorado 80111
(303) 850-5600

Southwest Region

Northern Telecom Inc.
2221 Lakeside Blvd., FL 9
Richardson, Texas 75082-4399
(214) 684-4195 or 1000

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
(Manitoba, North-Western Ontario)**

Northern Telecom Canada Limited
180, 117 King Edward Street E.
Winnipeg, Manitoba R3H 0Y3
(204) 788-7531

Ontario

Northern Telecom Canada Limited
PO Box 3000
Brampton, Ontario L6V 2M6
(905) 452-2104

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
(Nova Scotia, Prince Edward Island)**

Northern Telecom Canada Limited
1701 Hollis St., Suite 900
Halifax, Nova Scotia B3J 3M8
(902) 421-2301

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
(Saskatchewan)**

Northern Telecom Canada Limited
PO Box 770
Regina, Saskatchewan S4P 3A8
(1867 Hamilton Street, 8th floor)
(306) 791-7100 or (306) 791-7110

Quebec

Northern Telecom Canada Limited
PO Box 2110
St. Laurent, Quebec H4L 4Y7
(514) 744-8750

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

Understanding centralized software management

This chapter describes centralized software management. The S/DMS Network Manager Graphical Network Browser (GNB) tool provides a centralized facility for delivering software releases to the controllers it monitors. A software release consists of the software loads required to upgrade the controllers in the network, and the network elements in their span of control. This feature, called centralized software management (CSM), makes it possible to upgrade controller and network element software loads from a central location.

CSM can be performed only from GNB, and only by S/DMS Network Manager users with an admin user access class.

Centralized software management is performed using several specialized dialogs available from GNB menus. This chapter describes each dialog, menu, command, and field used in these dialogs. Procedures that describe how to perform software management tasks are located in “Managing software deliveries” on page 2-1.

CSM allows you to extract a software release from a digital data storage (DDS) tape and store it on the S/DMS Network Manager hard disk. The release needs to be extracted only once. After it is extracted from the DDS you can reuse the release stored on the S/DMS Network Manager hard disk.

GNB allows you to schedule the date and time to deliver the software release, and to which controllers the release is to be delivered. When the scheduled delivery time arrives, S/DMS Network Manager electronically delivers the software release to the specified controllers.

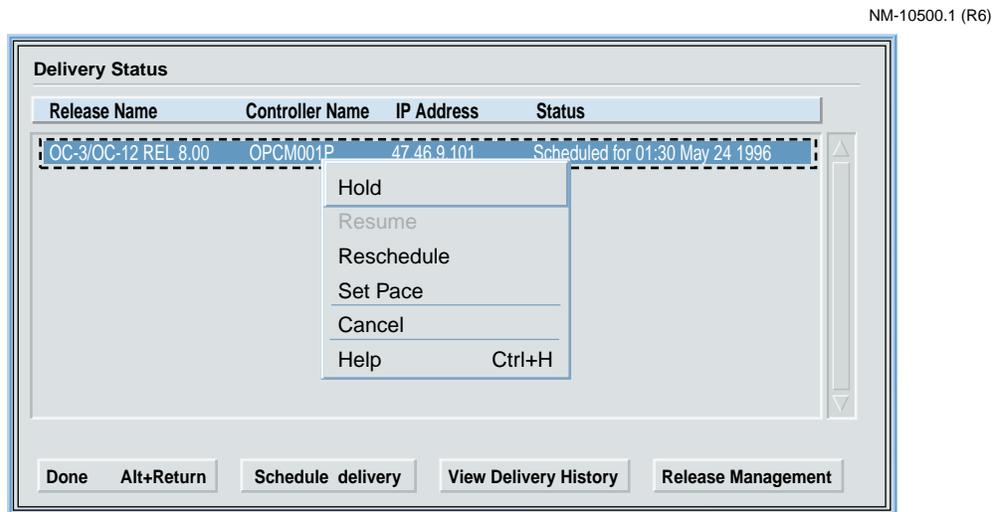
You can view detailed information about the progress of the current deliveries, see what deliveries are scheduled for the future, and what deliveries have occurred in the past.

Once the software load is delivered to the controllers, you can log in to the primary controller and upgrade the controller and network element software loads. You must log in to each controller that you want to upgrade, and use the software upgrade tools provided on the controller.

Note: To perform centralized software management tasks, the controllers to which you download a software release must support CSM. For more information, see “Software release compatibility” in *S/DMS Network Manager Introduction*, 323-4001-102.

Delivery Status dialog

The Delivery Status dialog shows the status of the currently scheduled software deliveries. (See the following illustration.)



You can open the Delivery Status dialog by selecting the Show Release Manager command from the GNB Configuration menu. This dialog allows you to monitor the progress of deliveries currently in progress. You can also use this dialog to modify the delivery schedule, pause a delivery in progress, and cancel a delivery at any time.

After a delivery is successfully completed, the entry corresponding to that delivery is removed from the Delivery dialog.

The Delivery Status dialog consists of a release list, a list item menu that provides commands to modify a specific delivery, and action buttons that allow you to monitor and set up deliveries. Each of these components is described in the following sections.

Delivery list

The delivery list shows the software releases currently scheduled for delivery. The list includes the name and IP address of the controller to receive the delivery and the current status of the delivery.

The order of the list is determined by the order that the releases are scheduled for delivery.

Delivery list contains the following columns of information:

Release Name	Identifies the names of the product-specific software releases scheduled for delivery from this S/DMS Network Manager. Each release name identifies the product that the software is used on, for example OC-48, or OC-12, and the version of the product, such as Rel 8.0, 9.0 or 10.0. Each release typically consists of a single controller load and one or more network element loads relevant to the product release number.
Controller Name	Identifies the name of the controller to which the software release is being delivered.
IP Address	Identifies the unique IP address of the controller to which the software is to be delivered.
Status	Identifies the current status of the delivery. The status can be one of the following: Scheduled—the delivery is scheduled for a specific time. Pending—the delivery is pending the completion of a currently active delivery. Holding—the delivery has been manually put in a holding state and is not allowed to go active at this time. Active—the delivery is currently being processed. Retrying—the delivery has encountered a problem. S/DMS Network Manager is attempting to continue with the delivery.

You can display the delivery list item menu for each item in the list. This menu enables you to hold, resume, reschedule, pace, and cancel a delivery.

Done button

This button closes the Delivery Status dialog.

Schedule Delivery button

This button opens the Scheduler dialog. The Scheduler dialog allows you to schedule the delivery of a software release to a controller. For more information, see “Release Scheduler dialog” on page 1-8.

View Delivery History button

This button opens the Release Delivery History dialog. The Release Delivery History dialog allows you to review the history of up to 200 past software deliveries. For more information, see “Release Delivery History dialog” on page 1-15.

Release Management button

This button opens the Release Management dialog. The Release Management dialog allows you to extract software releases from tape and store them on S/DMS Network Manager. For more information, see “Release Management dialog” on page 1-5.

Release Management dialog

The Release Management dialog allows you to extract a software release from a DDS tape and temporarily store the release on S/DMS Network Manager until it is delivered to the desired controller. (See the following illustration.)

NM-10496.1

Release Name	Controller Load
OC-3/OC-12 REL 8.00	opc13ar_hp_80
OC-48 REL 9.00	opc14am_hp_80

Release Directory: /usr/lib/eswd/releases

Disk Space Available: 225.8 Mb

Tape Device: /dev/rmt/0m

Buttons: Query Tape, Extract Tape, Abort Extraction, Done Alt+Return

Labels: Release Name:, Release Size:, Progress:

You can open the Release Manager dialog by selecting the Release Management button in the Delivery Status dialog. Only one user at a time can open the Release Manager dialog. If another user already has this dialog open, a message appears on the display to indicate that the Release Management dialog is already in use.

The Release Management dialog contains a list of all releases currently stored on S/DMS Network Manager. The dialog also contains fields that allow you to specify which tape device to retrieve the new release from, and where it is to be stored on S/DMS Network Manager. The buttons in the dialog allow you to control the extraction of the release from the tape.

This dialog also allows you to delete a release from S/DMS Network Manager when the release is no longer required.

Note: Do not use the software release directory to store anything other than software release files. When you delete a release, you delete the entire contents of the software release directory.

Release list

The Release list shows the software loads currently stored on S/DMS Network Manager. This list allows you to select the specific software releases you want to download to a controller.

The list is divided into two columns, one for the release name, and one for the controller software load associated with that release. These columns provide the following information:

Release Name	This field identifies the names of the product-specific software releases stored on S/DMS Network Manager. Each release name identifies the product that the software is used on, for example OC-48 or OC-12, and the version of the product, such as Rel 8.0, 9.0 or 10.0. Each release typically consists of a single controller load and one or more network element loads relevant to the product release number.
Controller Load	The Controller Load column identifies the controller software load relevant to a particular product release.

The Release list has a menu that enables you to delete a selected release from the S/DMS Network Manager, when it is no longer required.

Release Directory field

The Release Directory field shows which S/DMS Network Manager directory is used to store the release once it is extracted from the tape.

This field has a data selector that lists all known release directories on S/DMS Network Manager. From the data selector, you can choose the directory you want to use.

If desired, you can type the name of the directory in the Release Directory field. When you press the Return key, S/DMS Network Manager validates that the directory is writable, and shows the amount of disk space available.

Disk Space Available field

The Disk Space Available field shows the amount of disk space remaining in the directory specified in the S/DMS Network Manager in the Release Directory. The disk space is computed when the dialog is first opened, and is recomputed when the software is extracted from the tape. The disk space is also computed when you change directories.

Tape Device field

The Tape Device field allows you to identify the tape device used to extract the software release.

This field has a data selector that lists the default tape device, and any other devices that S/DMS Network Manager used successfully. From this data selector, you can choose the device you want to use.

Query Tape button

The Query tape button allows you to identify the name of the release on the tape, and the amount of disk space, in megabytes, that the release will consume on S/DMS Network Manager. This information allows you to make sure that you have the proper tape installed, and there is enough space in the chosen directory.

The name of the release appears in the Release Name field beside the Query Tape button. The size of the release appears in the Release Size field.

Extract Release button

The Extract Release button allows you to start the extraction of the release from the tape.

The minimum software releases that can be extracted from tape and used by S/DMS Network Manager for centralized software management are OC-3/OC-12 Rel 8, OC-48 Rel 9, OC-192 Rel 1, OC-3 Express Rel 2.1, S/DMS AccessNode AN10, and Cornerstone Voice CSV01.

While the release is being extracted from the tape, the Progress field shows how much of the release has been extracted so far. The progress is expressed as a percentage of the total size of the release.

Cancel Extraction button

The Cancel Extraction button allows you to stop the extraction of the release from the tape. This button can be used only while the extraction is in progress; otherwise it is disabled. Whatever portion of the release that has been extracted so far is automatically removed from the release directory.

Done button

The Done button closes the Release Management dialog. This button has no affect on an extraction in progress. The extraction continues until it finishes, even though the Release Management dialog is closed.

Release Scheduler dialog

The Release Scheduler dialog allows you to select and schedule the delivery of a software release to a specific controller. (See the following illustration.)

NM-10498.1 (R6)

Release Scheduler

This dialog allows you to schedule the delivery of a Release to a Controller

Select a Release

Release Name	Load
OC-3/OC-12 REL 8.00	opc13av_hp_80
OC-48 REL 9.00	opc14an_hp_80

Select a Target for Delivery

Name	IP Address	Current Release	Load
OPCM001P	47.46.9.101	OC-3/OC-12 REL 8	opc13ap_hp_80
OPCM002P	47.46.3.215	OC-48 REL 8	opc12ax_hp_80
OPCM003P	47.46.0.258	OC-48 REL 9	opc14am_hp_80
OPCM003P	47.46.1.12	OC-3/OC-12 REL 7	opc11av_hp_80

Specify earliest time to deliver _____ to _____

As soon as possible
 At or after

(hh:mm) (dd/mm)

Specify the pace to use while doing the transfer

No pacing
 Maximum pace (bps):

You can open the Release Scheduler dialog by selecting the Schedule delivery button in the Delivery Status dialog. Only one user at a time can open the Release Scheduler dialog. If another user already has the dialog open, a message appears on the display to indicate that the Release Scheduler dialog is already in use.

Once you enter all information required to schedule a delivery, S/DMS Network Manager validates the information.

This dialog contains a list of software releases currently stored on S/DMS Network Manager, and a list of the primary controllers that support centralized software management. This dialog allows you to specify when you want the delivery to take place, and to set the rate of the delivery.

Only one release at a time can be delivered to a controller. If you schedule a delivery for a controller, and another delivery is already scheduled for that controller, the Delivery Conflict dialog appears. The conflict dialog allows you to review the details of the conflicting deliveries, and to take the appropriate action to correct the conflict.

Release list

The Release list shows the software loads currently stored on S/DMS Network Manager. This list allows you to select the specific software releases you want to schedule for delivery to a controller.

The list is divided into two columns, one for the release name, and one for the controller software load associated with that release. These columns provide the following information:

Release Name	This field identifies the names of the product-specific software releases stored on S/DMS Network Manager. Each release name identifies the product that the software is used on, for example OC-48 or OC-12, and the version of the product, such as Rel 8.0, 9.0 or 10.0. Each release typically consists of a single controller load and one or more network element loads relevant to the product release number.
Controller Load	The Controller Load column identifies the controller software load relevant to a particular product release.

Primary Controller list

The Primary controller list shows all controllers monitored by S/DMS Network Manager that support centralized software management. If a controller does not support centralized software management, it does not appear in the list. Use this list to select the controller to which the software release is to be delivered.

If a release is already scheduled for delivery to a controller, or the primary controller is in any state other than the active state, the entry for that controller is disabled.

The list provides the following information:

Controller Name	Identifies each controller monitored by S/DMS Network Manager that supports centralized software management.
IP Address	Identifies the unique IP (Internet Protocol) address of the controller to which the software is to be delivered.
Current Release	Shows the software release currently installed on the controller.
Controller S/W Load	Identifies the controller software version for the Current release column.

Delivery time

The delivery time fields and buttons allow you to specify when you want the software release to be delivered. Two separate radio buttons allow you to deliver the software release as soon as possible, or at a specific time in the future as follows:

Note: Before specifying a delivery time, ensure the time and date are set properly on all equipment.

As soon as possible	Select this button to deliver the software release as soon as it is possible for S/DMS Network Manager to do so. If other deliveries are active, the new delivery is queued by S/DMS Network Manager until the other deliveries are complete. If no other deliveries are active, the delivery is made immediately.
At or after	Select this button to schedule delivery for some time in the future, as specified in the time and date fields.

You can schedule a delivery for any date in the next 12 months. If the time you specify has already passed, and you have not specified a date, the delivery is made at the specified time tomorrow. If the date has passed, the delivery is scheduled for the same date next year.

If it is not possible to deliver the software at the exact specified time, the delivery takes place some time thereafter.

The entry in the time field must be in the 24-hour clock format (hour:minute). The entry in the date field must be in the day/month format.

Delivery pace

The delivery pace buttons allow you to control the rate of transfer, measured in bytes per second (byte/s), at which the software release is delivered from S/DMS Network Manager to the specified controller.

Two separate radio buttons allow you to choose between the highest possible rate of transfer (No pacing), and a specific rate of transfer (Maximum pace).

No pacing	Deliver the release at the highest possible rate of transfer to the specified controller.
Maximum pace	<p>Set the pace at which the release is transferred to the specified controller. When you select this button, you must enter a value in the field beside the button, to represent the pace of the transfer.</p> <p>Use this button when the bandwidth on the communications network between the S/DMS Network Manager and the controller is sensitive to extended periods of high use, or other applications are running on S/DMS Network Manager that can be affected. Setting a low pace for the transfer can help to ensure the delivery is successful.</p>

The pace field represents the rate, measured in bytes per second (byte/s), at which the release is transferred. When specifying the maximum pace of the transfer, take into consideration any limitations on the use of the communication channel for each particular controller.

Enter any value between 1 and 999999 in this field. However, a very large number might produce the same results as if you selected No Pacing.

OK button

When you select the OK button, S/DMS Network Manager validates the information you entered in the Release Scheduler dialog. If the information is valid, S/DMS Network Manager schedules the delivery of the selected release, to the specified controller, at the specified time.

The Release Scheduler dialog closes once the validation is complete and the delivery has been scheduled.

Release Management button

The Release Management button opens the Release Management dialog. This dialog allows you to extract a software release from a tape, and store it on S/DMS Network Manager. For more information, see “Release Management dialog” on page 1-5.

Apply button

When you select the Apply button, S/DMS Network Manager validates the information that you entered in the Release Scheduler dialog. If the information is valid, S/DMS Network Manager schedules the delivery, and the Release Scheduler dialog remains on the screen. In the Primary Controller list controllers for which deliveries are already scheduled are disabled. This prevents scheduling another delivery to the same controller.

The dialog remains on the screen, and all fields remain filled with the schedule information. This information allows you to generate another delivery schedule with similar attributes.

Monitor Delivery button

The Monitor Delivery button opens the Delivery Status dialog. This dialog allows you to monitor the status and progress of software deliveries currently in progress, and to see the deliveries scheduled for the future.

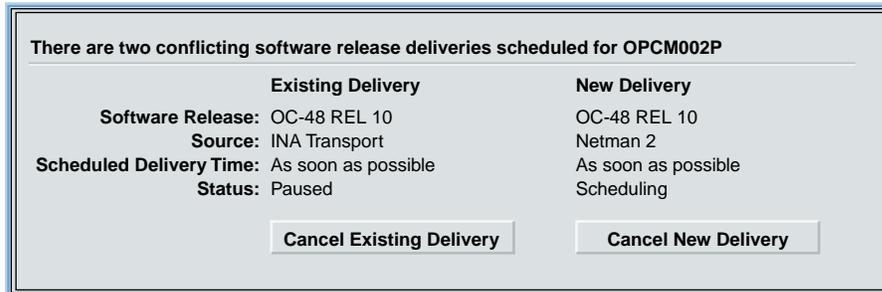
Cancel button

The Cancel button closes the Release Scheduler dialog, without validating or saving any schedule information you entered.

Delivery Conflict dialog

The Delivery Conflict dialog appears if you schedule a new delivery to a controller that already has a delivery scheduled from another S/DMS Network Manager. (See the following illustration.)

NM-10374.1



The name of the controller affected by the delivery conflict is shown at the top of the dialog.

You can use the Delivery Conflict dialog to resolve the delivery conflict, either by canceling the delivery you just scheduled (shown on the right side of the dialog), or by canceling the delivery from the other S/DMS Network Manager (shown on the left side of the dialog).

Canceling a delivery scheduled by another S/DMS Network Manager is useful if the other S/DMS Network Manager is not operating properly, and is blocking other deliveries to the controller. Cancelling the other delivery allows you to proceed with the delivery of the software release from this S/DMS Network Manager. If you cancel the delivery from the other S/DMS Network Manager, the cancellation appears in the Release Delivery History dialog of the other S/DMS Network Manager.

This dialog is divided into two distinct areas that describe the delivery conflict. One area shows the details of a existing delivery, and the other shows the details of the new delivery that you just created. Each area contains the following information.

Software Release	Shows the software release scheduled for delivery to the specified controller. In some cases, “Unknown” might appear in this field under the Existing Delivery heading. This message appears because your S/DMS Network Manager does not contain the release scheduled for delivery from the other S/DMS Network Manager.
Source	Shows the S/DMS Network Manager from which the delivery was scheduled. The IP address of S/DMS Network Manager is shown after the name.
Scheduled Delivery Time	Shows the time, and date if appropriate, at which the delivery is to take place from the specified S/DMS Network Manager.
Status	Identifies the current status of the delivery. The status can be one of the following: Scheduled—delivery is scheduled for a specific time. Pending—delivery is pending the completion of a currently active delivery. Holding—delivery has been manually put in a holding state and is not allowed to go active at this time. Active—delivery is currently being processed. Retrying—delivery has encountered a problem and S/DMS Network Manager is attempting to continue with the delivery.

Cancel Existing Delivery button

This button allows you to cancel the existing delivery scheduled from another S/DMS Network Manager. When you select this button, the software release shown in the New Delivery column is delivered to the controller at the specified time and date. The existing delivery is discarded.

If you cancel the delivery from the another S/DMS Network Manager, the cancellation appears in the Release Delivery History dialog of the other S/DMS Network Manager.

Cancel New Delivery button

This button allows you to cancel the new delivery scheduled from your S/DMS Network Manager. When you select this button, the software release shown in the Existing Delivery column is delivered to the controller at the specified time and date. The new delivery you just scheduled is discarded.

The cancellation appears in Release Delivery History dialog.

Release Delivery History dialog

The Release Delivery History dialog allows you to review the history of up to 200 software deliveries from this S/DMS Network Manager. (See the following illustration.)

NM-10501.1 (R6)

Release Name	Controller Name	IP Address	Final State	Start Time	End Time
OC-3/OC-12 REL 8.00	OPCM001P	47.46.9.101	Cancelled by admin.	09:06 18/04/96	
OC-3/OC-12 REL 8.00	OPCM002P	47.46.3.215	Completed	13:10 15/04/94	19:09 17/04/96
OC-3/OC-12 REL 8.00	OPCM003P	47.46.0.258	Completed	18:01 15/04/94	18:08 15/04/96

Done Alt+Return

You can open the Release Delivery History dialog by selecting the View Delivery History button in the Delivery Status dialog. The Release Delivery History dialog lists the software releases delivered, the name and IP address of each controller to which the releases were delivered, the final state of the deliveries, and the delivery start and end time. The list is sorted in reverse chronological order, according to the delivery end time.

The Release Delivery History list contains the following columns of information to describe each software delivery:

Release Name	<p>Identifies the names of the product-specific software releases delivered from this S/DMS Network Manager. Each release name identifies the product the software is used on, for example OC-48, or OC-12, and the software version, such as Rel 8.0, 9.0 or 10.0.</p> <p>Each release typically consists of a single controller load and one or more network element loads relevant to the product release number.</p>
Controller Name	<p>Identifies the name of the primary controller to which the software release was delivered.</p>
IP Address	<p>Identifies the unique IP address of the controller to which the software is to be delivered.</p>
Final State	<p>Identifies the final state the delivery reached before it ended. The states include successful completion of a delivery, failed deliveries and reasons, and user cancellations.</p> <p>See “Delivery final states” on page 1-17 for a description of errors that can cause a delivery failure.</p>
Start Time	<p>Shows the time and date the delivery started.</p> <p>The time shown in this column is not necessarily the scheduled delivery time because the start of a delivery can be delayed. This delay can be due to another delivery that was active when this delivery was scheduled to start. In such a case, the start of a scheduled delivery is delayed until the active delivery is complete.</p> <p>This field can be blank if the delivery never started, such as in the case of a cancelation of a delivery.</p>
End Time	<p>The End Time column shows the time of day and the date the delivery ended.</p>

Delivery final states

The Final State column identifies the final state the delivery reached before it ended.

The states that can appear in this column are as follows:

Completed	The delivery was completed successfully.
Cancelled by <user>	The delivery was canceled by the identified user.
Cancelled by <S/DMS Network Manager >	The delivery was canceled by another S/DMS Network Manager.
Failed, <reason>	The delivery failed because the stated error condition occurred during the delivery. The following explains each error condition.

A number of error conditions can cause a delivery to fail. Following are the error conditions that can appear in the Final State column of the Release Delivery History dialog:

Checksum Error	Checksum error was detected during a software delivery.
No Connection	Timed out while connecting to S/DMS Network Manager or controller.
Directory Not Empty	Attempted to delete a directory that is not empty.
Controller Disk full	The size of the scheduled delivery exceeds the amount of available storage space on the controller.
Internal Error	Internal error in file transfer protocol.
Not enough disk space	Not enough disk space on the controller to execute command.
Retry exhausted	Retried the specified number of times.
Release missing	Could not find a (valid) Release in the specified directory.
Software Mismatch	Unsupported software version.
Unstable source	Source file(s) modified or moved during file transfer.

Done button

The Done button closes the Release Delivery History dialog.

Managing software deliveries

This chapter describes how to perform controller and network element centralized software management (CSM) tasks from S/DMS Network Manager.

These tasks allow you to store software releases on S/DMS Network Manager, and electronically transfer those releases to any controller monitored by S/DMS Network Manager. A software release includes the controller and network element software loads required to upgrade a span of control.

Note: S/DMS Network Manager delivers OC-3 Express software releases to a subnetwork controller. The subnetwork controller is also known as a Network Processor Card (NPC).

Once the software release is delivered to the controller, you can log in to the controller and upgrade each controller in the network, and associated network elements. To upgrade a Northern Telecom operations controller (OPC), you can use the Network Upgrade Manager (NUM) tool on the OPC. The software release must be delivered to the OPC before the NUM tool can be used. If you want to know more about NUM, see *Software Administration Procedures*, 323-nnnn-303.

The software management tasks described in this chapter can be performed only on controllers running a software release that supports centralized software management. As a minimum, the controllers must have one of the following software releases installed.

System type	Minimum software release
OC-48	Rel 9.00
OC-3/OC-12	Rel 8.00
OC-192	Rel 1.00
OC-3 Express	Rel 2.10
S/DMS AccessNode	AN10
Cornerstone Voice	CSV01

For more information, see “Software release compatibility” in *S/DMS Network Manager Introduction*, 323-4001-102.

If the controllers do not have one of the above mentioned software releases installed, you might still be able to use S/DMS Network Manager to electronically deliver a software release to the controller. However, before you attempt to do so, you must perform a special software management bootstrap procedure on the controller. See “Bootstrapping the OPC for CSM” in *S/DMS Network Manager Installation and Administration*, 323-4001-202 for more information.

Requirements

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

- read the conventions described in “About this document” on page vii
- read “Understanding GNB” in *S/DMS Network Manager Fault Management*, 323-4001-055 and “Understanding centralized software management” on page 1-1
- ensure you have a user account with admin access class
- log in to S/DMS Network Manager and open GNB. For more information, see “Logging in and opening an S/DMS Network Manager tool” in *S/DMS Network Manager Connectivity*, 323-4001-053.

Chapter task list

The following table lists the centralized software management tasks you can perform with S/DMS Network Manager.

Task	Page
Monitoring and modifying a software delivery	2-3
Extracting a software release from tape	2-5
Deleting a software release	2-8
Scheduling a software delivery	2-10
Resolving delivery schedule conflicts	2-15
Altering the delivery schedule	2-16
Viewing release delivery history	2-21

Procedure 2-1

Monitoring and modifying a software delivery

Use this procedure to view the status and progress, and if necessary modify the software release deliveries already scheduled.

This procedure allows you to display the Delivery Status dialog. Use this dialog to view the current software releases delivery schedule, and the current status of each delivery.

Once you monitor the status of the deliveries, you can change the delivery schedule for a release, or schedule a new delivery.

Before starting this procedure, read “Requirements” on page 2-2.

Action

Step	Action												
1	<p>Display the network window Configuration menu and select the Show Release Manager command.</p> <p><i>The Delivery Status dialog appears.</i></p> <p><i>This dialog shows the releases scheduled for delivery, the controller that each release is to be delivered to, the IP address of the controller, and the current status of the delivery.</i></p>												
2	<p>Once you monitor the status of the deliveries, you can do one of the following:</p> <ul style="list-style-type: none"> alter the delivery schedule, which includes rescheduling a delivery, changing delivery parameters, cancelling a delivery, and putting a delivery on hold or resuming a delivery that is currently on hold schedule a new delivery view the history of past deliveries extract a new software release from tape close the dialog and continue with other software management tasks <table border="1"> <thead> <tr> <th>If you want to</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>extract a new release from tape</td> <td>step 3</td> </tr> <tr> <td>schedule a new software delivery</td> <td>step 5</td> </tr> <tr> <td>alter the delivery schedule</td> <td>see Procedure 2-6, “Altering the delivery schedule”</td> </tr> <tr> <td>view the delivery history</td> <td>step 7</td> </tr> <tr> <td>close the Delivery Status dialog</td> <td>step 9</td> </tr> </tbody> </table>	If you want to	Then	extract a new release from tape	step 3	schedule a new software delivery	step 5	alter the delivery schedule	see Procedure 2-6, “Altering the delivery schedule”	view the delivery history	step 7	close the Delivery Status dialog	step 9
If you want to	Then												
extract a new release from tape	step 3												
schedule a new software delivery	step 5												
alter the delivery schedule	see Procedure 2-6, “Altering the delivery schedule”												
view the delivery history	step 7												
close the Delivery Status dialog	step 9												

—continued—

2-4 Managing software deliveries

Procedure 2-1 (continued)

Monitoring and modifying a software delivery

Step	Action
3	Select the Release Management button. <i>The Release Management dialog appears.</i>
4	For instructions on how to extract a software release from tape and store it on S/DMS Network Manager, see Procedure 2-2, "Extracting a software release from tape". Go to step 2.
5	Select the Schedule Delivery button. <i>The Release Scheduler dialog appears.</i>
6	To schedule a new software release delivery to a controller, see Procedure 2-4, "Scheduling a software delivery". Go to step 2.
7	Select the Delivery History button. <i>The Delivery History dialog appears.</i>
8	To learn more about the Delivery History dialog, see Procedure 2-7, "Viewing release delivery history". Go to step 2.
9	Select the Done button in the Delivery Status dialog. <i>The Delivery Status dialog is removed from the display.</i>

—end—

Procedure 2-2

Extracting a software release from tape

Use this procedure to extract a software release from a digital data storage (DDS) tape and store the release on the S/DMS Network Manager hard disk. Each release is stored in its own directory on the hard disk.

A software release consists of the controller and network element software loads required to upgrade a span of control. Each release is stored on a separate DDS. This procedure allows you to take the software release off of the DDS and store it on the S/DMS Network Manager hard disk for future delivery to a controller.

S/DMS Network Manager allows you to extract and store only OC-3/OC-12 Rel 8, OC-48 Rel 9, OC-192 Rel 1, OC-3 Express 2.1, AN10, Cornerstone Voice CSV01 or later software loads and store them on the S/DMS Network Manager hard disk.

Once a release is no longer required, delete the release to free-up disk space on S/DMS Network Manager for future releases. To delete a software release from the S/DMS Network Manager hard disk, see Procedure 2-3, “Deleting a software release”.

Additional Requirements

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

- obtain the DDS that contains the software release you want to extract

Action

Step	Action
1	Display the network window Configuration menu and select the Show Release Manager command. <i>The Delivery Status dialog appears.</i>

—continued—

Procedure 2-2 (continued)

Extracting a software release from tape

Step	Action										
2	Select the Release Management button. <i>The Release Management dialog appears.</i> <i>disk are shown in the Release Name list at the top of the dialog.</i> <i>The amount of space (in megabytes) available on the S/DMS Network Manager hard disk appears in the Disk Space Available field.</i>										
3	Move to the Tape Device field. <i>This field shows the default tape device used by your S/DMS Network Manager.</i> Note: There can be more than one tape device connected to your S/DMS Network Manager. To use a device other than the one shown in the Tape Device field, continue with the next step. Otherwise, go to step 5.										
4	Click the data selector button at the right of the Tape Device field, and select a tape device. <i>The data selector shows the default tape device, and any other devices connected to S/DMS Network Manager.</i> Note: If desired, you can type the name of the device in the Tape Device field.										
5	If there is a DDS in the tape drive, eject it and remove it from the tape drive.										
6	Insert the DDS that contains the software release you want to extract, into the tape device specified in the Tape Device field. <i>The tape rewinds.</i>										
7	Before you extract the release, you can query the DDS tape to find out which software release it contains. You can then extract the release from the tape and store it in a specific location on the S/DMS Network Manager hard disk, or cancel an extraction already in progress. <table border="1"><thead><tr><th>If you want to</th><th>Then</th></tr></thead><tbody><tr><td>query the tape</td><td>step 8</td></tr><tr><td>extract the contents of the tape</td><td>step 10</td></tr><tr><td>cancel an extraction in progress</td><td>step 13</td></tr><tr><td>close the Release Management dialog</td><td>step 15</td></tr></tbody></table>	If you want to	Then	query the tape	step 8	extract the contents of the tape	step 10	cancel an extraction in progress	step 13	close the Release Management dialog	step 15
If you want to	Then										
query the tape	step 8										
extract the contents of the tape	step 10										
cancel an extraction in progress	step 13										
close the Release Management dialog	step 15										
8	Select the Query Tape button. <i>After a short time, the name of the software release stored on the DDS appears in the Release Name field beside the Query Tape button.</i> <i>The size of the release (in megabytes) appears in the Release Size field.</i>										

—continued—

Procedure 2-2 (continued)
Extracting a software release from tape

Step	Action				
9	<p>Verify that this software release is the one you want to extract, and that there is enough space to accommodate the release on the S/DMS Network Manager hard disk.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">If</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td> <p>this release is the one you want to extract</p> <p>this release is not the one you want to extract</p> <p>you need to free up disk space on the hard disk</p> </td> <td> <p>step 10</p> <p>step 5</p> <p>Procedure 2-3, "Deleting a software release"</p> </td> </tr> </tbody> </table>	If	Then	<p>this release is the one you want to extract</p> <p>this release is not the one you want to extract</p> <p>you need to free up disk space on the hard disk</p>	<p>step 10</p> <p>step 5</p> <p>Procedure 2-3, "Deleting a software release"</p>
If	Then				
<p>this release is the one you want to extract</p> <p>this release is not the one you want to extract</p> <p>you need to free up disk space on the hard disk</p>	<p>step 10</p> <p>step 5</p> <p>Procedure 2-3, "Deleting a software release"</p>				
10	<p>Click the data selector button at the right of the Release Directory field.</p> <p><i>A menu appears.</i></p> <p><i>The menu shows all known directories on S/DMS Network Manager that can be used to store a software release.</i></p>				
11	<p>Select the directory to store the software release.</p> <p>Note: You can type the name of the directory in the Release Directory field rather than use the data selector. If you type in the name of a directory that exists, S/DMS Network Manager validates that the directory is writable.</p>				
12	<p>Select the Extract Release button.</p> <p><i>The release extraction process begins. The Progress field continually updates to show how much of the release, expressed as a percentage, has been extracted from the tape.</i></p>				
13	<p>To cancel an extraction in progress, select the Cancel button.</p> <p>Note: You can only cancel an extraction while it is in progress, for example, when the Progress field is less than 100%.</p>				
14	<p>You can extract another software release or close the dialog.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">If you want to</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td> <p>extract another release</p> <p>close the dialog</p> </td> <td> <p>step 5</p> <p>step 15</p> </td> </tr> </tbody> </table>	If you want to	Then	<p>extract another release</p> <p>close the dialog</p>	<p>step 5</p> <p>step 15</p>
If you want to	Then				
<p>extract another release</p> <p>close the dialog</p>	<p>step 5</p> <p>step 15</p>				
15	<p>Select the Done button.</p> <p><i>The Release Management dialog is removed from the display.</i></p>				

—end—

Procedure 2-3

Deleting a software release

Use this procedure to delete software releases from the S/DMS Network Manager hard disk when they are no longer required.

The Disk Space Available field in the Release Management dialog shows how much space is available on the hard disk. Use this information to determine when to delete the software releases so new releases can be stored on the hard disk.

Each release is stored in its own directory. When you delete a release, all files in the directory where the release is stored are deleted, and the directory is automatically deleted.

Additional Requirements

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

- obtain the DDS that contains the software release you want to extract

Action

Step	Action						
1	Display the network window Configuration menu and select the Show Release Manager command. <i>The Delivery Status dialog appears.</i>						
2	Select the Release Management button. <i>The Release Management dialog appears.</i>						
3	Select the release you want to delete, and display the Release list item menu. <i>The Release list menu appears.</i>						
4	Select the Delete Release command. <i>A confirmation dialog appears. The message that appears in the confirmation dialog depends on the delivery schedule for the release.</i>						
5	If the release is currently being delivered to a controller, the following confirmation message appears. <i>The <Release name> is currently being delivered to a controller, it cannot be deleted while it is being delivered.</i>						
	<table><thead><tr><th>If you want to</th><th>Then</th></tr></thead><tbody><tr><td>continue with the deletion</td><td>step 6</td></tr><tr><td>abandon the deletion</td><td>step 9</td></tr></tbody></table>	If you want to	Then	continue with the deletion	step 6	abandon the deletion	step 9
If you want to	Then						
continue with the deletion	step 6						
abandon the deletion	step 9						

—continued—

 Procedure 2-3 (continued)
Deleting a software release

Step	Action						
6	<p>If the release is scheduled for delivery at some time in the future, the following confirmation message appears.</p> <p>The <Release name> is scheduled to be delivered to an OPC. If you delete it and do not extract it before the time is scheduled to be delivered, the delivery will fail.</p> <p>Do you still want to delete the release?</p> <p>Note: You must re-extract this release from tape before the scheduled delivery time. Otherwise the delivery will fail. For more information, see Procedure 2-2, "Extracting a software release from tape".</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">If you want to</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px solid black;">continue with the deletion</td> <td style="border-top: 1px solid black;">step 7</td> </tr> <tr> <td>abandon the deletion</td> <td>step 9</td> </tr> </tbody> </table>	If you want to	Then	continue with the deletion	step 7	abandon the deletion	step 9
If you want to	Then						
continue with the deletion	step 7						
abandon the deletion	step 9						
7	<p>If the release is not currently being delivered, nor scheduled for delivery at some time in the future, the following confirmation message appears.</p> <p>Are you sure you want to delete <Release name>?</p>						
8	<p>Decide whether you want to continue with the deletion, or abandon the deletion.</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">If you want to</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td style="border-top: 1px solid black;">abandon the deletion</td> <td style="border-top: 1px solid black;">step 9</td> </tr> <tr> <td>continue with the deletion</td> <td>step 10</td> </tr> </tbody> </table>	If you want to	Then	abandon the deletion	step 9	continue with the deletion	step 10
If you want to	Then						
abandon the deletion	step 9						
continue with the deletion	step 10						
9	<p>Select the Cancel button.</p> <p><i>The confirmation dialog is removed. The release remains in the Release list.</i></p> <p>Go to step 11.</p>						
10	<p>Select the OK button.</p> <p><i>The release is removed from the Release list, and from the S/DMS Network Manager hard disk. The directory, and all files in it, are also deleted from the S/DMS Network Manager hard disk.</i></p>						
11	<p>Select the Done button to close the Release Management dialog.</p>						

—end—

Procedure 2-4 Scheduling a software delivery

Use this procedure to schedule the delivery of a software release to a specific controller monitored by S/DMS Network Manager.

This procedure uses the Release Scheduler dialog to schedule the delivery of any release that has been extracted from tape and stored on S/DMS Network Manager. The Release Scheduler dialog provides a list of releases stored on S/DMS Network Manager, and a list of all primary controllers monitored by S/DMS Network Manager. The dialog also shows the current software load installed on each primary controller so that you do not duplicate the release on the controller.

This procedure allows you to select the release you want to deliver, and the controller you want to deliver it to. You can also specify the time and date you want the delivery to take place, and the rate of delivery.

Note: Software releases cannot be delivered to Tellab Titan 5500 Digital Cross-Connect (DCS) and DV45 Video Codec network elements.

For more information on software delivery, see “Understanding centralized software management” on page 1-1.

Before starting this procedure, read “Requirements” on page 2-2.

Action

Step	Action
1	Log in to S/DMS Network Manager and open GNB. <i>For more information, see “Logging in and opening an S/DMS Network Manager tool” in S/DMS Network Manager Connectivity, 323-4001-053. The GNB network window appears.</i>
2	Display the network window Configuration menu and select the Show Release Manager command. <i>The Delivery Status dialog appears.</i>

—continued—

 Procedure 2-4 (continued)
Scheduling a software delivery

Step	Action								
3	Select the Schedule Delivery button. <i>The Release Scheduler dialog appears.</i>								
4	Before you schedule a new software delivery, you can monitor the status of deliveries already scheduled. Or, if the release that you want to deliver does not appear in the Release list, you can extract it from tape. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">If you want to</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td>monitor the current deliveries</td> <td>step 5</td> </tr> <tr> <td>extract a new load from tape</td> <td>step 7</td> </tr> <tr> <td>schedule a new delivery</td> <td>step 9</td> </tr> </tbody> </table>	If you want to	Then	monitor the current deliveries	step 5	extract a new load from tape	step 7	schedule a new delivery	step 9
If you want to	Then								
monitor the current deliveries	step 5								
extract a new load from tape	step 7								
schedule a new delivery	step 9								
5	Select the Monitor Delivery button. <i>The Delivery Status dialog appears.</i> Note: To learn how to use the Delivery status dialog, see Procedure 2-1, "Monitoring and modifying a software delivery".								
6	When you finish viewing the Delivery Status, go to step 9.								
7	Select the Release Management button. <i>The Release Management dialog appears.</i> Note: To learn how to extract a new release from tape, see Procedure 2-2, "Extracting a software release from tape".								
8	When you finish extracting the release from tape, continue with the next step.								
9	Move to the Release Scheduler dialog Release list and select the release you want to deliver. <i>The release is highlighted. The release name appears in the Specify earliest time to deliver field below the release list.</i>								
10	Move to the Primary controller list and select the controller to which you want to deliver the release. <i>The controller is highlighted. The controller name appears in the Specify earliest time to deliver field below the release list.</i> Note: If a primary controller is in the inactive state, or a delivery is already scheduled for a controller, its entry in the Primary controller list is grayed out.								

—continued—

2-12 Managing software deliveries

Procedure 2-4 (continued)

Scheduling a software delivery

Step	Action						
11	<p>Move to the delivery time radio buttons.</p> <p>You can schedule the delivery for the earliest possible time, or you can enter the specific time you want the release delivered to the specified controller.</p> <table><thead><tr><th>If you want the release delivered at</th><th>Then</th></tr></thead><tbody><tr><td>the earliest possible time</td><td>step 12</td></tr><tr><td>a specific time and date</td><td>step 13</td></tr></tbody></table> <p>Note: S/DMS Network Manager can deliver only one release at a time, therefore delivery times are approximate.</p>	If you want the release delivered at	Then	the earliest possible time	step 12	a specific time and date	step 13
If you want the release delivered at	Then						
the earliest possible time	step 12						
a specific time and date	step 13						
12	<p>Select the As Soon as possible button.</p> <p><i>S/DMS Network Manager delivers the release to the controller at the earliest possible time. The exact time is determined by the number of releases scheduled for delivery ahead of this delivery.</i></p> <p>Go to step 16.</p>						
13	<p>Select the At or after button.</p> <p><i>S/DMS Network Manager delivers the release to the specified controller at, or after, the time and date you enter in the fields beside this button.</i></p> <p>Note: The exact time of the delivery is determined by the number of releases scheduled for delivery ahead of this delivery.</p>						
14	<p>Move to the time field and enter the time of day you want the release delivered to the controller.</p> <p>Note: Enter the time using a 24-hour clock format. If the time you specify has already past, and you do not specify a date, delivery is made at the specified time tomorrow.</p>						
15	<p>Move to the date field and enter the date on which you want to deliver the release to the controller.</p> <p>Note: You can schedule a delivery for any date in the next year. If the date has past, the delivery is scheduled for the same date next year</p>						
16	<p>You can set a specific rate for the delivery of the software release to the controller, or let S/DMS Network Manager deliver it at the highest possible rate.</p> <table><thead><tr><th>If you want</th><th>Then</th></tr></thead><tbody><tr><td>the release delivered at the highest possible rate</td><td>step 17</td></tr><tr><td>set a specific rate for the delivery of the release</td><td>step 18</td></tr></tbody></table>	If you want	Then	the release delivered at the highest possible rate	step 17	set a specific rate for the delivery of the release	step 18
If you want	Then						
the release delivered at the highest possible rate	step 17						
set a specific rate for the delivery of the release	step 18						

—continued—

 Procedure 2-4 (continued)
Scheduling a software delivery

Step	Action								
17	Select the No Pacing button. <i>The release is delivered at the highest possible rate of transfer to the specified controller.</i> Go to step 20.								
18	Select the Maximum Pace (bps) button.								
19	Move to the pace field and enter the rate, in bytes per second, that the software release is to be delivered to the specified controller. <i>S/DMS Network Manager transfers the software release to the controller at the rate you entered in this field.</i> Note: When specifying the rate of transfer, take into consideration any limitations on the use of the communication channel between S/DMS Network Manager and the controller. Other applications running on S/DMS Network Manager can be affected if you set too high a pace for a software delivery.								
20	You can schedule other software deliveries while the Release Scheduler dialog is open, or discard the new delivery you are scheduling. <table border="1" style="margin-left: 20px; width: 100%;"> <thead> <tr> <th style="text-align: left;">If you</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td>finish scheduling software deliveries</td> <td>step 21</td> </tr> <tr> <td>want to discard the new delivery</td> <td>step 22</td> </tr> <tr> <td>want to schedule other software deliveries</td> <td>step 23</td> </tr> </tbody> </table>	If you	Then	finish scheduling software deliveries	step 21	want to discard the new delivery	step 22	want to schedule other software deliveries	step 23
If you	Then								
finish scheduling software deliveries	step 21								
want to discard the new delivery	step 22								
want to schedule other software deliveries	step 23								
21	Select the OK button. <i>S/DMS Network Manager validates the schedule information you entered.</i> Go to step 24.								
22	Select the Cancel button. <i>The Release Scheduler dialog is removed from the display.</i> Go to step 27.								
23	Select the Apply button. <i>The fields remain filled in with the schedule information, but the controller is disabled in the Primary controller list. This action prevents you from scheduling another delivery to the same controller.</i>								
24	S/DMS Network Manager validates the new schedule information against the existing schedule information. This validation ensures there are no conflicts between the delivery you are currently scheduling and the existing scheduled deliveries. A schedule conflict occurs when software releases are scheduled for delivery from two different S/DMS Network Managers to the same controller.								

—continued—

2-14 Managing software deliveries

Procedure 2-4 (continued)

Scheduling a software delivery

Step	Action						
25	If a Schedule Conflict dialog appears, see Procedure 2-5, "Resolving delivery schedule conflicts".						
26	If the schedule information is valid, the schedule updates with the new software release delivery information. <table><thead><tr><th>If you select the</th><th>Then</th></tr></thead><tbody><tr><td>Apply button</td><td>step 4 to schedule other deliveries</td></tr><tr><td>OK or Cancel button</td><td>step 27</td></tr></tbody></table>	If you select the	Then	Apply button	step 4 to schedule other deliveries	OK or Cancel button	step 27
If you select the	Then						
Apply button	step 4 to schedule other deliveries						
OK or Cancel button	step 27						
27	The procedure is complete.						

—end—

Procedure 2-5

Resolving delivery schedule conflicts

Use this procedure to resolve delivery schedule conflicts.

You can perform this procedure only when S/DMS Network Manager indicates a delivery conflict by displaying the Schedule Conflict dialog. This dialog appears automatically when you schedule a new delivery that conflicts with a previously scheduled delivery from another S/DMS Network Manager.

Before starting this procedure, read “Requirements” on page 2-2.

Action

Step	Action						
1	<p>If the delivery you scheduled is in conflict with a delivery already scheduled from another S/DMS Network Manager, neither delivery can take place until the conflict is resolved.</p> <p><i>A Schedule Conflict dialog appears.</i></p>						
2	<p>The Schedule Conflict dialog shows the details of the new delivery you are trying to schedule, and the existing delivery scheduled for delivery to the same controller from another S/DMS Network Manager.</p> <p>To resolve the conflict, cancel either the new delivery or the existing delivery.</p> <table border="1"> <thead> <tr> <th>If you want to</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>cancel the new delivery</td> <td>step 3</td> </tr> <tr> <td>cancel the existing delivery</td> <td>step 4</td> </tr> </tbody> </table>	If you want to	Then	cancel the new delivery	step 3	cancel the existing delivery	step 4
If you want to	Then						
cancel the new delivery	step 3						
cancel the existing delivery	step 4						
3	<p>Select the Cancel New Delivery button.</p> <p><i>The software release shown in the Existing Delivery column is delivered to the controller at the scheduled time.</i></p> <p>Go to step 5.</p>						
4	<p>Select the Cancel Existing Delivery button.</p> <p><i>The Schedule Conflict dialog disappears. The software release shown in the New Delivery column is delivered to the controller at the scheduled time.</i></p>						
5	<p>The conflict is resolved.</p> <p><i>The Schedule Conflict dialog disappears.</i></p>						
6	<p>Return to Procedure 2-4, “Scheduling a software delivery”, to continue scheduling software deliveries.</p>						

—end—

Procedure 2-6

Altering the delivery schedule

Use this procedure to alter the delivery schedule of a software release.

This procedure allows you to do the following if the delivery has not yet entered the active state:

- reschedule a delivery to another time or date
- change the pace of a delivery
- put a delivery on hold
- resume a delivery currently on hold
- cancel a delivery

Once a delivery enters the active state, but the delivery has not yet been completed, you can:

- put a delivery on hold
- resume a delivery currently on hold
- cancel a delivery

Before starting this procedure, read “Requirements” on page 2-2.

Action

Step	Action
1	<p>Display the network window Configuration menu and select the Show Release Manager command.</p> <p><i>The Delivery Status dialog appears.</i></p> <p><i>This dialog shows the releases scheduled for delivery, the controller to deliver each release to, the IP address of the controller, and the current status of the delivery.</i></p>

—continued—

 Procedure 2-6 (continued)
Altering the delivery schedule

Step	Action														
2	<p>Select the desired delivery from the list in the Delivery Status dialog and display the list item menu.</p> <p><i>The list item menu appears.</i></p> <p><i>This menu allows you to put the selected delivery on hold, to resume a delivery currently on hold, to reschedule a delivery, to change the pace of a delivery, or to cancel a delivery.</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">If you want to</th> <th style="text-align: left;">Then</th> </tr> </thead> <tbody> <tr> <td>put the delivery on hold</td> <td>step 3</td> </tr> <tr> <td>resume a delivery currently on hold</td> <td>step 4</td> </tr> <tr> <td>reschedule the delivery to another time or date</td> <td>step 6</td> </tr> <tr> <td>change the pace of the delivery</td> <td>step 9</td> </tr> <tr> <td>cancel the delivery</td> <td>step 12</td> </tr> <tr> <td>close the Delivery Status dialog</td> <td>step 20</td> </tr> </tbody> </table>	If you want to	Then	put the delivery on hold	step 3	resume a delivery currently on hold	step 4	reschedule the delivery to another time or date	step 6	change the pace of the delivery	step 9	cancel the delivery	step 12	close the Delivery Status dialog	step 20
If you want to	Then														
put the delivery on hold	step 3														
resume a delivery currently on hold	step 4														
reschedule the delivery to another time or date	step 6														
change the pace of the delivery	step 9														
cancel the delivery	step 12														
close the Delivery Status dialog	step 20														
3	<p>Select the Hold command.</p> <p><i>The status of the selected delivery changes to Holding.</i></p> <p>Note: The release is not delivered to the controller until you resume the delivery. If the delivery is resumed after the scheduled delivery time, the release is delivered at the earliest possible time after you select the Resume command.</p> <p>Go to step 13.</p>														
4	<p>Select the Resume command.</p> <p><i>The status of the selected delivery changes to show the time that the release is scheduled to be delivered.</i></p>														
5	<p>Go to step 13.</p>														
6	<p>Select the Reschedule command.</p>														

—continued—

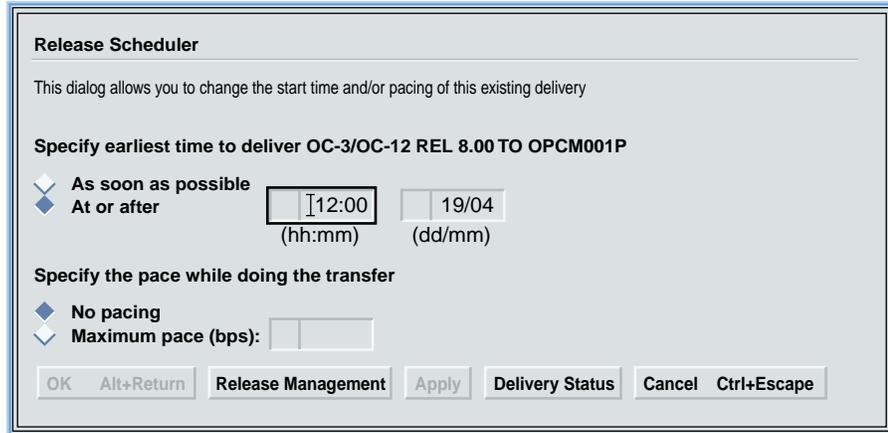
2-18 Managing software deliveries

Procedure 2-6 (continued)
Altering the delivery schedule

Step Action

A simplified Release Scheduler dialog appears. The cursor is placed in the time field.

NM-10276.1



Note: This dialog allows you to change only the delivery time, date, or the pacing for the selected delivery.

7 Enter the new time and date for the delivery to take place and select the **OK** button.

S/DMS Network Manager validates the new schedule. The new delivery time and date appear in the status field of the Delivery Status dialog. The Release Scheduler dialog disappears.

8 Go to step 13.

9 Select the **Set Pace** command.

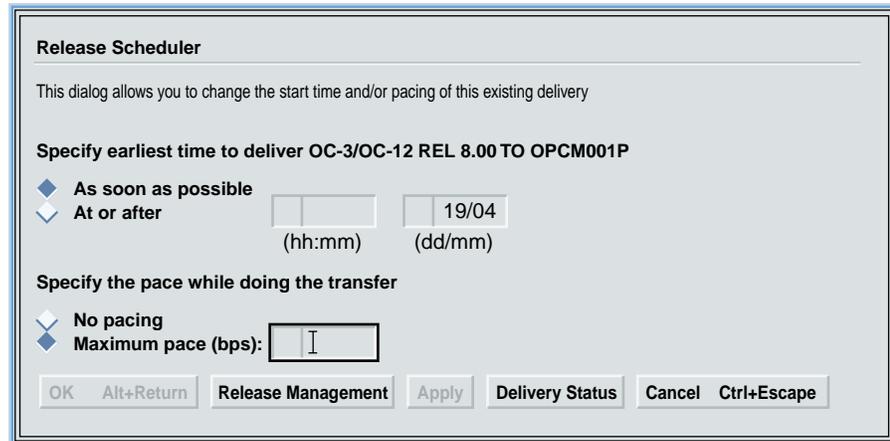
—continued—

Procedure 2-6 (continued)
Altering the delivery schedule

Step Action

A simplified Release Scheduler dialog appears. The cursor is placed in the Pacing field.

NM-10386.1



Note: This dialog allows you to change only the pacing, delivery time, or date for the selected delivery.

- 10 Enter the new pacing value, in bytes per second, in the Maximum pacing field, or select the **No pacing** button. Select the **OK** button.

The Release Scheduler dialog disappears. There are no visible changes to the Delivery Status dialog.

- 11 Go to step 13.

- 12 Select the **Cancel** command.

S/DMS Network Manager updates the delivery schedule. The delivery is removed from the schedule. The delivery is also removed from the list in the Delivery Status dialog.

Note: No confirmation is provided that the delivery has been cancelled.

- 13 You can schedule a new delivery, view the history of past deliveries, or extract a new release from tape in preparation for delivery to a controller.

If you want to	Then
alter other deliveries	step 2
schedule a new software delivery	step 14
view the delivery history	step 16
extract a new release from tape	step 18
close the Delivery Status dialog	step 20

—continued—

Procedure 2-6 (continued)

Altering the delivery schedule

Step	Action
14	Select the Schedule a delivery button. <i>The Release Scheduler dialog appears.</i>
15	To schedule the delivery of a software release to a controller, see Procedure 2-4, "Scheduling a software delivery". Go to step 20.
16	Select the View Delivery History button. <i>The Delivery History dialog appears.</i> <i>This list shows the final outcome of each scheduled delivery, and the time the delivery started and ended. The list also shows the deliveries that failed or were cancelled.</i>
17	To learn more about the Delivery History dialog, see Procedure 2-7, "Viewing release delivery history". Go to step 20.
18	Select the Release Management button. <i>The Release Management dialog appears.</i> <i>This dialog allows you to extract a new software release from tape in preparation for delivery to a controller.</i>
19	For instructions on how to extract a software release from tape and store it on S/DMS Network Manager, see Procedure 2-2, "Extracting a software release from tape".
20	Select the Done button in the Delivery Status dialog. <i>The Delivery Status dialog is removed from the display.</i>

—end—

Procedure 2-7

Viewing release delivery history

Use this procedure to view the history of past releases scheduled for delivery to a controller from S/DMS Network Manager.

This procedure allows you to display a Delivery History dialog that provides a chronological list of up to 200 past deliveries. The list shows the name of the release scheduled for delivery, the controller to receive the release, the IP address of the controller, the state that the delivery ended in, and the time that the delivery started and ended.

The state information shown in the Delivery History dialog indicates whether the delivery is complete or fails. If the delivery fails, the state field explains the reason for the failure. The state field also shows the deliveries that were canceled, and which user canceled the delivery.

Before starting this procedure, read “Requirements” on page 2-2.

Action

Step	Action
1	<p>Display the network window Configuration menu and select the Show Release Manager command.</p> <p><i>The Delivery Status dialog appears.</i></p> <p><i>This dialog shows the releases currently scheduled for delivery, the controller to deliver each release to, the IP address of the controller, and the current status of the delivery.</i></p>
2	<p>Select the View Delivery History button.</p> <p><i>The Release Delivery History dialog appears.</i></p> <p><i>This dialog shows the final outcome of each scheduled delivery, the controller to receive the delivery, the IP address of the controller, the result of the delivery, and the time the delivery started and ended.</i></p> <p><i>The Final State field identifies whether the delivery is complete, is canceled, or fails.</i></p> <p><i>If the delivery is canceled, the name of the user who canceled the delivery is shown in the Final State field.</i></p> <p><i>If the delivery fails, the Final State field provides a reason for the failure.</i></p>
3	<p>To close the Delivery History dialog, select the Done button.</p> <p><i>The Delivery History dialog disappears.</i></p>

—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 Software Management

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