

Critical Release Notice

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The content of this customer NTP supports the
SN06 (DMS) software release.

Bookmarks used in this NTP highlight the changes between the baseline NTP and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the baseline NTP remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to new or modified content for the baseline NTP that is valid through the current release.

Red: Applies to new or modified content for NA017 that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS) that is valid through the current release.

Attention!

Adobe® Acrobat® Reader™ 5.0 is required to view bookmarks in color.

Publication History

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Change of phone number from 1-800-684-2273 to 1-877-662-5669, Option 4 + 1.

297-2667-011

Digital Switching Systems

SuperNode Data Manager Carrier

Service Operation Support Manual

SDMC13 Standard 03.02 May 2000

NORTEL
NETWORKS™

How the world shares ideas.

Digital Switching Systems

SuperNode Data Manager Carrier

Service Operation Support Manual

Publication number: 297-2667-011
Product release: SDMC13
Document release: Standard 03.02
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Publication history

May 2000

Standard release 03.02 for SDMC13. The technical content in this document has changed as follows: the SDMC12 and SDMC13 software releases were added to Table 6-3.

January 2000

Preliminary release 03.01 for SDMC13. The technical content in this document has not changed in this release.

November 1999

Standard release 02.02 for SDMC12.

May 1999

Standard release 01.02 for SDMC0011.

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About this document

This document describes the various types of services that Nortel Networks may make available to its customers, and how a customer can obtain those services. Nothing in this document shall be deemed to create any contractual obligation between Nortel Networks and any customer, or to alter or amend in any manner any existing rights and obligations that may be set forth in a contract between Nortel Networks and a customer. The terms and conditions set forth in any contract between Nortel Networks and a customer supersede any conflicting procedures or statements contained in this document.

Who needs this manual?

This manual is for personnel who are responsible for setting up, administering, and maintaining the SuperNode Data Manager Carrier.

To use this manual fully:

- Ensure the switch you are working with is installed, commissioned, and active.
- Receive Nortel Networks approved training for Table Editor, datafill, translations, and maintenance.

How is this manual arranged?

The information in this manual is arranged as follows.

Chapter 1, List of telephone numbers

Chapter 1 provides telephone numbers for the functions mentioned in this document.

Chapter 2, Introduction to services

Chapter 2 explains the three main areas of Nortel Networks' support services.

Chapter 3, Warranty services

Chapter 3 explains warranty services.

Chapter 4, Extended service plan

Chapter 4 explains Nortel Networks' Extended Service Plan and its availability.

Chapter 5, Maintenance support services

Chapter 5 describes Nortel Networks' different maintenance plans, and how they can be tailored to meet the customer's needs.

Chapter 6, Support services

Chapter 6 describes the variety of Nortel Networks' support services that are not related to a service contract.

Where does this manual fit in the document suite?

This manual is written specifically for the SDMC switch and is part of a suite of documents for the SuperNode Data Manager Carrier. The documentation suite for DMS products reflects the common architecture of the DMS software. This suite includes application guides and reference guides. Application guides provide information on specific SuperNode Data Manager Carrier features. Technical reference guides contain information about logs, commands, operational measurements, and office parameters that are common to the DMS family. Chapter 3 in the *SDMC User Guide*, 297-2667-900, explains how the documentation suite for the switch is organized.

What software release does this manual apply to?

This manual applies to SuperNode Data Manager Carrier offices that have software release SDMC13. Unless revised, this manual also applies to offices with software releases later than SDMC13.

How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised and released in the *same* software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

This document is written for all DMS Family offices. More than one version of this document may exist. To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in *Product Documentation Directory*, 297-8991-001.

What documents are referred to in this manual?

The following documents are referred to in this manual:

- *Product Document Directory*, 297-8991-001
- *SuperNode Data Manager Carrier User Guide*, 297-2667-900
- *SuperNode Data Manager Carrier User Guide*, 297-5051-906

What documents relate to this manual?

Information about related documents can be found in either the *SuperNode Data Manager Carrier User Guide*, 297-2667-900, Chapter 3, or the *Product Documentation Directory*, 297-8991-001.

Trademarks in this document

The asterisk after a name denotes a trademarked item. The title page and back cover acknowledge all trademarked items.

Document conventions

This document conforms to the following conventions.

Input prompt (>)

An input prompt (>) indicates that the information that follows is a command:

>BSY

Commands and fixed parameters

Commands and fixed parameters that are entered at a MAP terminal are shown in uppercase letters:

>BSY CTRL

Variables

Variables are shown in lowercase letters:

>BSY CTRL ctrl_no

The letters or numbers that the variable represents must be entered. Each variable is explained in a list that follows the command string.

Optional variables and parameters

Optional variables and parameters are shown in brackets ([]):

>SS setname [INSVSYNC]

Optional variables and parameters shown in brackets use the syntax described above. Each optional variable or parameter is explained in a list that follows the command string.

Responses

Responses correspond to the MAP display and are shown in a different type:

```
FP 3 Busy CTRL 0: Command request has been submitted.  
FP 3 Busy CTRL 0: Command passed.
```

The following excerpt from a procedure shows the command syntax used in this document:

- 1 Manually busy the CTRL on the inactive plane by typing

```
>BSY CTRL ctrl_no  
and pressing the Enter key.
```

where

ctrl_no is the number of the CTRL (0 or 1)

Example of a MAP response:

```
FP 3 Busy CTRL 0: Command request has been submitted.  
FP 3 Busy CTRL 0: Command passed.
```

What precautionary messages mean

The types of precautionary messages used in Nortel Networks' documents include attention boxes and danger, warning, and caution messages.

An attention box identifies information that is necessary for the proper performance of a procedure or task or the correct interpretation of information or data. Danger, warning, and caution messages indicate possible risks.

Examples of the precautionary messages follow.

ATTENTION Information needed to perform a task

ATTENTION

If the unused DS-3 ports are not deprovisioned before a DS-1/VT Mapper is installed, the DS-1 traffic will not be carried through the DS-1/VT Mapper, even though the DS-1/VT Mapper is properly provisioned.

DANGER Possibility of personal injury



DANGER

Risk of electrocution

Do not open the front panel of the inverter unless fuses F1, F2, and F3 have been removed. The inverter contains high-voltage lines. Until the fuses are removed, the high-voltage lines are active, and you risk being electrocuted.

WARNING Possibility of equipment damage



WARNING

Damage to the backplane connector pins

Align the card before seating it, to avoid bending the backplane connector pins. Use light thumb pressure to align the card with the connectors. Next, use the levers on the card to seat the card into the connectors.

CAUTION Possibility of service interruption or degradation



CAUTION

Possible loss of service

Before continuing, confirm that you are removing the card from the inactive unit of the peripheral module. Subscriber service will be lost if you remove a card from the active unit.

List of telephone numbers

Nortel Networks provides the following telephone numbers to help you find information about the functions and services mentioned in this document. For additional information, call your account manager.

Department	Telephone number
Change Application Engineering	(972) 684-7650
Customer Service	(972) 684-7888
Including:	or
Billing Recovery Service	(800) 684-7888
non-warranty service	or
OEM/vendor repair/replacement	Fax (repair/replacement)
Printed Circuit Pack (PCP) repair	(972) 685-8862
repair and return/replacement	
shipping lists	
warranty service	
Documentation	1 (800) NTI-CARE
New Product Inquiry (hardware)	(972) 684-5595
National Service Center	(800) 527-0797
Order Entry	(972) 685-7168
Including:	
consumables	
merchandise	
merchandise order service	
Remote Services Center	(972) 684-7074
Service Contracts Administration	(972) 684-7624
—continued—	

1-2 List of telephone numbers

Department	Telephone number
Technical Assistance Service (TAS) Including: routine service emergency service (8 a.m. – 5 p.m.) after hours service (weekends, holidays) RTP support (for customers that are provided TAS support from RTP)	(972) 684-7250 (main) (214) 314-9888 (pager) (214) 657-5310 (backup) (972) 684-7250 (972) 684-7250 (214) 314-9888 (prime) (800) 688-7246 (214) 657-5310 (backup) (800) 758-4827 Note: Pager and backup numbers for TAS are to be used for emergency service that is needed after regular business hours.
Training Center	(800) 688-7246
—end—	

Introduction to services

Nortel Networks support services are divided into the following areas:

- warranty service introduces the core of Nortel Networks support
- extended service plan (ESP) represents complete post-warranty support, which offers core services and optional services
- maintenance support services can be individually purchased from an initial system in-service (ESP option) or as a post-warranty non-ESP service that is an integrated offering grouped in the following manner:
 - remote services
 - field services
 - performance support

In addition, Nortel Network offers its customers a variety of educational and other support-related services. These services include the following:

- documentation on Compact Disk Read-Only Memory (CD-ROM)
- technical training at one of Nortel Networks training centers
- software releases and hybrid software upgrades
- a disaster recovery plan that helps the operating company quickly put a switch back into operation in the event that it has been damaged in a disaster

Warranty services

Warranty services offered by Nortel Networks include the following during the first year a system is in service:

- repair and replacement services
- technical assistance service (TAS)
- design change support for hardware and software

Note: Several phone numbers are referred to in this chapter. Please see Chapter 1, “List of Phone Numbers,” for the departments, functions, and phone numbers.

Repair and replacement

Nortel Networks’ repair and replacement service provides timely and efficient service for equipment during (or beyond) the warranty period in routine and emergency situations.

Note 1: Direct your inquiries for new products and feature enhancements to your account representative.

Note 2: An expedite fee of \$50 is assessed on emergency orders, previously known as Material On Loan (MOL).

International or overseas customers

The procedures in this document apply to international customers unless otherwise specified by the laws of the host country.

Warranty

Repair and replacement warranty

All replaced or repaired parts are under warranty by Nortel Networks for a period of 90 days, commencing five days after the date of shipment, or for the balance of the original warranty, whichever is longer.

Non-warranty services

A purchase order number is required for all non-warranty services. The purchase order number can be either a blanket purchase order number, or an

individual purchase order number issued at the time of the request for service.

To establish a specific process for providing purchase order numbers, contact a Service Contracts Administration Representative at (972) 684-7624.

Service types

Routine repair service

Nortel Networks will ship a like-for-like replacement part within three days after receipt of request.

Emergency service

Nortel Networks either repairs the defective equipment on-site or ships a like-for-like part within 24 hours of the request.

Only parts vital to the call processing capability of the system are considered emergency parts. These are replaced under the following circumstances:

- the last spare of a circuit pack has been used to replace a defective pack in the switch, and all similar packs in the system are carrying live traffic
- the Nortel Networks TAS group determines that emergency service is required to correct the situation

Note: An expedite fee of \$50 is assessed on emergency orders, previously known as Material On Loan (MOL).

Counter-to-counter service

Counter-to-counter service is the same as emergency service except shipment is made to an airport specified by the customer. In addition, the customer is responsible for picking up the order.

Original equipment manufacturer (OEM) and vendor repair

Original equipment manufacturer (OEM) and vendor equipment refers to equipment that is manufactured by another vendor, but is purchased through Nortel Networks as an integral part of the system. OEM equipment can be repaired in the following ways:

- OEM and vendor repair and replacement—the equipment is shipped directly to the Nortel Networks specified location for like-for-like replacement under a routine or emergency scenario.
- OEM and vendor tracking repair—the equipment is shipped directly to the vendor for repair. The vendor returns the repaired equipment to the customer address. The order is tracked by Nortel Networks.

- On-site vendor repair.—the equipment is repaired by a Nortel Networks' specified vendor on the customer premises.

Material on Loan (MOL) policy

The customer is invoiced for the current purchase price of any defective equipment not received by Nortel Networks within 30 days after shipment of the replacement part.

Note: A separate order must be placed for each project number. A surcharge is assessed for emergency service per contract.

Consumables

Consumable items are consumed during use and are considered non-repairable. These items include, but are not limited to, the following:

- light bulbs
- fuses
- printer paper
- DAT tapes
- circuit breakers
- filters

Consumables are provided as a part of your spare inventory when your SDM is installed. Consumables can also be provided as part of a support contract. You can purchase consumables by contacting the Merchandise Order Entry at (972) 685-7168 when needed. In addition, you will need a purchase order number to place an order.

Note: Nortel Networks requires a \$50 minimum order on consumable item orders.

Repair order procedures

Nortel Networks is committed to providing the highest level of customer support to ensure customer satisfaction. This section provides Nortel Networks' customers with instructions on how to obtain circuit pack and vendor product repairs.

Nortel Networks' Customer Service Organization (CSO) in Richardson, Texas, has been supporting the DMS family of switching products since 1983. The department's goal is to provide a simple and reliable repair and replacement service for equipment that must be replaced during the initial warranty period.

Repair order information

For repair and replacement assistance, call (800) 684-7888 between the hours of 8:00 a.m. and 5:00 p.m. (CST), Monday through Friday. Customer calls are received by our Remote Service Center after 5:00 p.m. weekdays, and on weekends and holidays. The Remote Service Center forwards all information to the appropriate on-call personnel.

Each request for repair service is issued a Return Material Authorization (RMA) number by Nortel Networks' CSO in Richardson, Texas. This number is critical for tracking individual orders, and must be referenced on failure tags, shipping and packing lists, or any correspondence or inquiries concerning the order.

Nortel Networks CSO shipping address

Nortel Networks CSO
400 N. Industrial Blvd.
Richardson, TX 75081

Information needed for placing a repair order

The following information is needed before you place a repair order with Nortel Networks' Richardson CSO:

- project number
- purchase order number (required for all non-warranty services, and to cover expedite fee on all emergency orders)
- requestor name and phone number
- part number
 - Product Engineering Code (PEC)
 - Corporate Product Code (CPC)
 - manufacturers part number
- quantity
- order type
 - on-site
 - routine
 - emergency
 - counter-to-counter
- the desired ship-to address, or location of equipment for on-site repair

Note: Vendor ship-to address instructions are provided at the time you place an order.

Shipping procedures

Defective return packing list

Use Defective Return shipping and packing lists to return all defective equipment or materials to Nortel Networks.

Nortel Networks' CSO provides you with a Defective Return Packing List to help you return materials (extra copies available upon request). Place a copy of the Defective Return Packing List in the carton. In addition, make certain you affix the original copy of the packing list to the outside of the carton.

The following information must be included on Defective Return Packing List (see the Figure 3-1 for an example of this list):

- 1 From (include the return address and telephone number)
- 2 Customer's P.O.# (customer's purchase order number, if applicable)
- 3 Repair Order Number (Return Material Authorization) issued when order authorization number is placed
- 4 Project number (four- or five-digit switch number)
- 5 Ship date (date parts are shipped from customer)
- 6 Ship via (carrier name)
- 7 Waybill number (carrier number)
- 8 Item number
- 9 Quantity shipped
- 10 Nortel Networks' part number
- 11 Description of item
- 12 Serial number
- 13 Shipment requested by (customer signature)
- 14 Date (date the Defective Return Packing List)

Note 1: Return all materials pre-paid (depending on contract) to the appropriate repair facility and use discretion in selecting shipping methods.

Note 2: Insure all packages to cover possible loss during shipping regardless of warranty status.

Packaging

Parts must be individually wrapped in anti-static containers to avoid damage from static electricity. If possible, avoid using polystyrene plastic peanut material. To avoid damage, ship circuit packs in the anti-static containers designed specifically for them.

Figure 3-1

**DEFECTIVE RETURN
PACKING LIST**

TO: Nortel
400 N. Industrial Blvd.
Richardson, TX 75081
800-684-7888 972-684-7888
Attn. Repair & Replacement

FROM: _____
1 _____

Customer P.O. Number 2	Customer Number	Repair Order Number 3	Project Number 4
Ship Date 5	Ship Via 6	Waybill Number 7	

Item 8	Ordered	Shipped 9	Nortel Part # 10	Description 11	Serial Number 12

Remarks _____

IMPORTANT

In order to properly process your repair order and credit your account
 Please reference the Nortel Repair Order Number and Project Number on this Defective Return
 Packing List and include this form with the returned shipment.
 Please ensure that all defective material is returned to Nortel within 30 days to
 avoid being invoiced the purchase price for the material.

Shipment Requested By: _____ 13 Date: _____ 14

White – NT Receiving Yellow – Customer

Other site recommendations

Nortel Networks provides the following recommendations for spares testing and repair log.

Spares testing

Nortel Networks recommends that the on-site spare be immediately replaced with the new replacement pack when it arrives. If the replacement pack does not pass the diagnostic test, it must be tagged immediately and returned to Nortel Networks. Nortel Networks issues a second RMA and ships a replacement within 24 hours after notification of the failure.

Note: Refer to the *SuperNode Data Manager Fault Tolerant User Guide* for specific instructions on replacing hardware.

Repair log

Nortel Networks recommends that customers track all repair and replacement of equipment in a repair log. Information on shipping and the RMA number must be included with each entry. In addition, when you maintain an accurate repair log, it helps identify repetitive problems and controls inventory levels. A template for this log and copies can be obtained from Nortel Networks' CSO.

Technical Assistance Service

Nortel Networks Technical Assistance Service (TAS) provides two basic classifications of assistance to the customer: emergency technical assistance service (ETAS) and routine technical assistance service.

TAS is a centralized team of highly trained personnel. TAS has access to complete DMS-family documentation, the latest developments in hardware and software, plus access to captive offices for verification of problems and resolutions.

In-service customers who experience product-related operational difficulties can contact the TAS group. Special remote terminals in the TAS center are used to communicate with a customer's system to diagnose fault conditions and recommend corrective action.

Emergency technical assistance service

ETAS service is available to customers who require immediate assistance with operational problems (such as loss of call processing or loss of billing). This service is available 24 hours a day, seven days a week. Through verbal reports and remote diagnoses of the system, ETAS engineers recommend actions to restore the system to stable operation as quickly as possible.

ETAS for emergency service is free of charge, except where defined as billable in the non-warranty services section of this chapter or during the initial warranty period, as defined in the terms and conditions of the customer contract. See the section “Priority classification” in this chapter for information on emergency situations that are classified as critical (E1 or E2).

Routine technical assistance service

The routine technical assistance service is available to customers who require problem isolation or resolution in a non-emergency situation. This service is available during business hours (Monday through Friday, 8:00 a.m. to 5:00 p.m., CST, except on observed holiday by Nortel Networks) and is primarily used for analysis of routine technical problems using verbal reports from site personnel and system generated information.

Technical information

The technical information service distributes Emergency Warning Bulletins and Customer Advisory Bulletins by way of the Customer Service Computerized Access Network (C-SCAN) utility.

C-SCAN is a computerized information service for Nortel Networks’ customers. Telephone companies and other customers that use Nortel Networks’ products can purchase this service by contacting their customer service representative or their Service Web coordinator. In addition, customers that use Service Web can access Nortel Networks’ customer service information directly from their own computer terminals.

Emergency Warning Bulletins inform you of scenarios that can exist within the DMS-family of switches, products, and procedures so that you can avoid any problems.

As a guide for the maintenance staff, the Warning Bulletin is accompanied by a prioritized index for all active bulletins. Nortel Networks recommends that you carefully adhere to the information in the Warning Bulletins to avoid problems.

Advisory Bulletins for SDMC are accompanied by a prioritized index for all active bulletins. Nortel Networks recommends that you carefully adhere to the information contained within the bulletins to avoid problems.

Non-warranty services

Some situations can arise during the warranty period that result in a service request being considered as billable. This category of service is referred to as a non-warranty service. Situations handled by a Nortel Networks' nonwarranty service include the following:

- requests that result from problems with equipment not furnished by Nortel Networks
- problems in which the solution was available through Nortel Networks' documentation, such as Nortel Networks Technical Publications (NTP), advisory bulletins, and software release documents (Reldocs)
- requests that result from Post-Release Software Units (PRSUs), also known as software patches, that alter the design intent of standard software to provide customer requested changes in operations
- requests for on-site assistance in lieu of remote testing. Refer to the *DMS-Family PRSU* for additional information.
- requests for non-emergency situations outside normal business hours (Monday through Friday, 8:00 a.m. to 5:00 p.m., CST, except for observed holidays by Nortel Networks), unless scheduled with appropriate TAS manager in advance
- requests for assistance in performing system data changes or changes to write-restricted tables
- requests for assistance in identifying faulty hardware or software for which standard maintenance fault-locating procedures exist

Priority classification

The service priority classification system is designed to establish a relationship between problems and the appropriate level of action and resolution. The system is based on a problem's direct or potential effect on subscriber service.

The commitments described in this document do not constitute a contractual obligation upon Nortel Networks, but are generally in support of the terms and conditions of sale of the systems and the System Support Agreement covering the system. System problems are assigned one of five priority levels, which include the following:

- Critical
 - E1/Critical, emergency level, degradation or outage
 - E2/Critical, emergency level, potential degradation or outage
 - E3/Critical, emergency follow-up
- Major

- S1/Major, non-emergency level, service affecting
- S2/Major, non-emergency, intermittently service affecting
- Minor
 - NS/Minor, non-service affecting

The emergency priorities E1 and E2 refer to situations in which large numbers of subscribers have their service impaired or endangered by the inoperability of a major redundant component of the system.

Emergency conditions that exist due to non-DMS related equipment or facilities are handled as the same service condition and with the same resolution objective as DMS-related E1s. A Customer Service Report (CSR) is opened as S1 priority to track the non-DMS related incidents. No down time is charged toward the DMS down time for these non-DMS related outages (such as fiber cuts, power outages, or problems with signaling transfer points or distributed control points).

Priorities S1 and S2 cover non-emergency service conditions in which different levels of subscribers are directly affected at varying frequencies.

Priority NS covers non-emergency, non-service affecting problems, such as maintenance, administrative, and operational measurement difficulties that do not directly affect the subscribers served by the system.

E1 critical, emergency level, degradation or outage

The loss of the SDM does not impact the ability to provide call processing, call features, or billing records, therefore; the loss of the SDM cannot cause an E1.

E2 critical, emergency level, potential degradation or outage

E2 emergency priority situations include the following scenarios:

- billing recovery
 - 50 percent loss of disk drive units
 - SDM fails to transfer billing
 - SDM inactive side is unable to Return to Service (RTS)
 - CPU billing occupancy of 70 percent or higher, with no known acceptable cause, such as peak traffic period or major facility failure

Resolution objective of E2 emergency: immediate and continuous assistance until the service level is stable.

S1 major, service conditions

S1 service situations include the following scenarios:

- general
 - software errors or hardware troubles directly and continuously affecting any subscriber's service or the ability to collect revenue
 - DAT drive or disk drive unit problems, except for maintenance and administration

Resolution objective: status response in two weeks with a repair or work-around solution applied within four weeks.

S2 major, intermittently service conditions

S2 service situations include the following scenarios:

- general
 - CPU receiving transient errors that result in a loss of synchronization less than twice a day
 - system-related documentation errors that categorically result in or lead to service impairment
- maintenance
 - maintenance actions that cannot be performed due to a software or hardware problem, but if not performed, lead to a service problem (no alternate method)

Resolution objective: status response in two weeks with a repair or work-around solution applied within four weeks.

NS minor, non-service conditions

NS, non-service situations are as follows:

- general
 - non-service software inconsistencies
 - service analysis
 - operational measurements
 - system related documentation inaccuracies, which do not affect revenue collection capabilities
- maintenance
 - equipment diagnostic failures that are not defined, which cannot be corrected by the customer

- repetitive central control or computing module transient errors with no loss of synchronization, which cannot be corrected by the customer

Resolution objective: status response in six weeks. Upon completion of the investigation, a repair, if applicable, is scheduled for a future standard software, hardware, or documentation update or revision.

Customer Service Report (CSR) system

System overview

Nortel Networks uses a priority driven, automated CSR system to manage and report all customer reported service calls.

This service performance information system allows Nortel Networks to serve the customer organization in the following ways:

- It expedites Nortel Networks' daily service control and responsiveness. The CSR system tracks each request for service to make sure that it is quickly attended to and closed. The system highlights all emergency situations or those that might need extended repair time.
- It provides switch and peripheral product system performance data. As the data is accumulated, very specific system and service performance trends can be analyzed. Nortel Networks is committed to providing service that is higher than national industry standards.

Customer responsibility

Nortel Networks recommends that the customer's engineering and technical support personnel attend specific training courses to become familiar with existing Nortel Networks' documentation and diagnostic resources. This familiarity helps ensure the proper day-to-day operation of Nortel Networks equipment.

In addition, Nortel Networks recommends that the customer determine all engineering parameters and use all locally available resources to troubleshoot and isolate system problems prior to calling Nortel Networks' TAS for assistance. However, in emergency situations such as system outages, the customer must notify the TAS immediately.

When a service call is placed with TAS, the following information must be provided:

- nature of call (routine or emergency)
- company name and switch site location
- main telephone number
- project number

- contact name and telephone number
- equipment type
- detailed problem description with the following information:
 - all appropriate datafill
 - any duplicated fault scenario (if possible)
 - any corrective action already taken
 - other significant switch activities in progress (for example, a new software load or new spans)

All appropriate system logs must be captured to disk or a stored file device.

After a service call is placed, customer site personnel must be available to take direction from TAS to perform on-site activity required to isolate and resolve the problem.

It is recommended that on-site technicians keep a CSR log to maintain a record of all trouble conditions referred to TAS for resolution. Figure 3-2 illustrates a blank copy of a TAS Referred Trouble Log.

CSR codes

Table 3-1 includes CSR codes and the related definitions.

Table 3-1
CSR codes and definitions

CSR	Definitions
Status code	<p>Answer (AN): is when an answer to the problem has been provided between Nortel Networks' departments. The reply must be analyzed and appropriate action taken.</p> <p>Customer (CA): is when the customer has been advised of the time when the final solution to the problem is delivered or the current system operation is design intent (for example, the delivery date of a new load or a hardware repair).</p> <p>Closed (CL): is when a solution to the problem has been applied or the problem no longer exists.</p> <p>Interim Solution (IS): is when an acceptable workaround has been provided. For example, a temporary solution to the problem has been delivered in the form of a PRSU. The service has been restored to the pre-incident level, but the cause of the problem remains under investigation.</p> <p>Open (OP): is when a problem is under investigation.</p> <p>Solution Available (SA): is when a solution is available and awaiting delivery.</p> <p>Reply Accepted (RA): is the final solution to the problem with the solution having been delivered to the customer.</p>
Fault type code	<p>Customer Data (CD): is when any data table changes are under direct customer control.</p> <p>Hardware Design (HD): is when a design problem exists with the hardware, likely a result in a Design Change Authorization.</p> <p>Hardware Failure (HF): is when a malfunction or defective hardware causes failure.</p> <p>Maintenance Procedure (MP): is when a site operationally did not follow procedures during a maintenance activity.</p> <p>Northern Telecom (NT): is when a Nortel Networks' activity causes the problem.</p> <p>Software Design (SD): is when a software fault occurs.</p> <p>Other (OT): is when a customer requests a service that does not fall into the other fault types.</p>

Key contacts

On or before in-service, each site is assigned a prime and backup TAS representative. All service requests must be addressed to the prime TAS representative or another TAS representative if the prime is unavailable.

Emergency service requests are immediately responded to by the first available TAS representative.

After hours emergency calls are responded to immediately by the designated TAS representative on-call.

Escalation procedure

If customer needs are not met at the TAS representative level, the matter can be escalated during normal business hours by calling the following persons, in sequential order:

- Manager, Technical Assistance Service
- Senior Manager, Customer Support
- Director, Customer Support

Design change support

Design change support provides on-going upgrades, enhancements, and maintenance for both hardware and software in a timely, coordinated manner.

Hardware design change support

Design change support services for hardware (also known as change application) are formal means to apply product changes required as a result of a design deficiency, feature enhancement, or product evolution that affects Nortel Networks' equipment.

Change application process

The Change Application department maintains the Extended Product Inventory Control (EPIC) database, which is used to coordinate change control.

A design change is initiated from Nortel Networks Technologies in the form of a Design Change Authorization or Engineering Change Document and is classified into one of the following categories:

- Class A, service affecting
- Class E, non-service affecting
- Class D, introduces new feature

Change application introduces the service affecting changes (Class A) into a database. The equipment that requires modification is identified in the form of an 88K Order. The 88K Orders for field modifications are delivered to the Field Change Applications department for scheduling.

Class E changes are typically applied when printed circuit packs are returned for repair.

EPIC database

EPIC is a customer-accessible database that represents the specific site inventory and revision status of SuperNode Data Manager Carrier product hardware. EPIC compares inventory and revision status data to baseline release levels and provides notification of design changes.

The EPIC database is used to identify the packs, modules, or frames that require upgrade when design changes are identified. The database contains the Product Engineering Code, release level, frame, shelf, and pack slot location obtained from physical audits of the customer's Nortel Networks' equipment.

Benefits to the customer include the following:

- network-wide control of hardware inventory and release levels
- reduction of customer tracking of hardware quantities and location
- elimination of a troubleshooting variable by assuring that all packs are at or above baseline release levels
- assurance that additional costs are not required because EPIC operates on existing hardware
- assurance that the most current technology is installed and provides optimal switch peripheral and network performance

Verification worksheets

Verification worksheets are frame-, module-, and pack-slot-specific representations of the switching equipment. The worksheet is used to perform physical audits of the systems. The information obtained is stored in the EPIC database.

88K orders

88K orders are the work order vehicle used to authorize the technicians to perform the design changes and are generated from EPIC when design changes are identified. 88K Orders are site specific and include all the frames, modules, and packs that need modified.

Key contacts

Key contacts include the following:

- Change Application
- EPIC inquiries and support
- Customer Service Senior Manager

- Field Service Senior Manager

Design change support (software)

Software enhancements or design deficiencies discovered between software releases are corrected by Maintenance Noncomputing Module Loads (MNCLs).

MNCL generation

MNCLs are written by Nortel Networks' field support personnel in response to software related CSRs. Once an MNCL is written, it is forwarded to VO for testing on an in-service VO.

MNCL definitions

Emergency: A service affecting software design deficiency that must be corrected by the application of a MNCL by Nortel Networks' personnel to prevent or correct a service degradation or fraud.

General: A software design change or correction that is applied in accordance to the pre-established application schedule.

MNCL application

A DAT tape is shipped to the customer site for application to the SDMC by the customer.

MNCL testing

Site personnel must test all MNCLs immediately after application. Critical call test plans must be developed to execute after implementation of the MNCL. If this implementation cannot be accomplished, a test plan must be developed to encompass the scenario to which the MNCL was applied.

Trouble reporting

Problems or side effects caused by a MNCL application must be reported immediately to TAS for analysis. If MNCLs need to be removed, the removal must occur under TAS supervision. If an emergency occurs, the site personnel must carefully track the removed MNCLs, save all logs, and keep a written record of the symptoms experienced, along with the time the symptoms occurred.

Emergency and faulty MNCL procedure

TAS tracks critical or emergency MNCLs and ships these MNCLs to all sites. Site personnel must quickly review the critical or emergency MNCLs for application to the customer's systems to prevent or resolve possible critical service degradations. Faulty or obsolete MNCLs are removed during the normal time cycles unless they affect service. PRSUs that affect service are removed as soon as possible.

Note: The option is available to return the previous MNCL. Refer to the *SuperNode Data Manager Fault Tolerant User Guide* for more information.

TAS responsibility

Routine service

Routine service calls are taken during business hours (Monday through Friday, 8:00 a.m. to 5:00 p.m., CST, except for observed holidays by Nortel Networks).

Customers can call the respective TAS prime directly at the primes extension. In the event a customer is unaware of the assigned TAS prime, he or she can call the TAS hotline at (972) 684-7250. This hotline is answered by the first available TAS engineer. Emergencies must always be directed to the TAS hotline.

The TAS engineer on a service call requests from the customer the required customer information, determine if the problem description requires an opened CSR, determine the appropriate priority classification, and respond according to the response objective associated with that classification. The TAS engineer also documents the service call with all required information on the CSR and ensures that the CSR is entered into the CSR database within 24 hours from the time it was opened.

The TAS engineer ranks all assigned CSRs according to priority classification and resolves and closes the CSR with the customer accordingly. If the problem appears to expose a design fault, the CSR can be referred to the appropriate global product support group (GPS).

Note 1: All solutions are discussed with the customer and the customer is responsible for authorizing closure of the CSR.

Note 2: General questions that do not require investigation do not need to be formally documented by a CSR.

Emergency service

Emergency service calls are taken after normal business hours by the designated TAS engineer. Contact the emergency pager again if there is no response within three minutes at (214) 314-9888. If there is no response within the next three minutes, the TAS backup must be paged at (214) 657-5310. If there is still no response, page the ETAS management team in the following order:

- ETAS manager: (800) 759-8888, #5732295
- Customer Support Senior Manager: (888) 650-0097
- Customer Support Director: (800) 759-8888, #1304006

3-20 Warranty services

The responding Nortel Networks' engineer immediately contacts the customer and takes appropriate action to resolve the problem. The service call is formally documented during the next regular business day.

Extended Service Plan

Nortel Networks' comprehensive Extended Service Plan (ESP) provides the most convenient, flexible, and cost-effective means to maintain switching networks. The ESP is designed to provide the customer with the same high-quality support services that are furnished under the initial warranty period.

The ESP offers Technical Assistance Support (TAS) and Repair and Return (R/R) service for Nortel Networks supplied switching equipment at a pre-established price. In addition, the ESP is available on a yearly basis and is renewable with 90 days notice.

Several phone numbers are referred to in this section. Please see Chapter 1, "List of Phone Number," for departments, functions, and phone numbers.

ESP service offerings

The ESP base package includes the following:

- R/R
 - Nortel Networks-coded (NT) provisionable DS-512 cards
 - Nortel Networks-supplied OEM equipment (switching platform only)

Note: TAS is not included in base package.

The ESP core package includes the following:

- R/R
 - DS-512 Card
 - Nortel Networks-supplied OEM equipment (switching platform only)
- TAS

The benefits of the ESP core package include the following:

- The annual ESP renewal R/R price is based on the prior year's ESP actual R/R volume.
- The ESP TAS prices are offered at a 25 percent discount from pay-as-you-go TAS prices (for example, in cases where on site technical assistance is required).
- The comprehensive support services are provided as a single administrative entity at minimum cost.
- The accounting and administrative costs are reduced significantly due to the elimination of individual invoices.
- The monthly costs are identified for the calendar year with the process of periodic billing that eases fiscal planning and budgeting requirements of monthly expenses.
- The maximum switch revenue generating potential is assured through a prompt technical support response and through an emergency DS-512 card replacement service.
- The Nortel Networks' repair operations are fully ISO 9002, Bellcore-compliant and utilize state-of-the-art testing facilities.

The R/R component includes the following:

- repair or replacement of DS-512 card
- routine service for DS-512 cards is available from 8 a.m. to 5 p.m. CST, Monday through Friday
 - Nortel Networks ships the replacement DS-512 card (in exchange) within three days after receipt of customer's request.
- emergency service for DS-512 replacement is available 24 hours a day, 7 days a week.
 - Nortel Networks ships the replacement unit within 24 hours of request (an expedite fee is assessed on emergency orders as specified in your contract with Nortel Networks).
 - Parts vital to the revenue capability of the system are considered emergency parts. These parts are replaced under the following circumstances:
 - The last spare of a DS-512 card has been used to replace a defective card in the SDM.
 - The Nortel Networks' TAS group determines that emergency service is required to correct the situation.
 - Emergency order charges and requests (normal emergencies) during Nortel Networks business hours are \$50 per request.

- Counter-to-counter charges and requests outside Nortel Networks business hours are \$150 per request.
- Nortel Networks supplied OEM or vendor equipment repair and return
 - OEM or vendor equipment refers to equipment manufactured by another vendor but purchased through Nortel Networks and serviced through Nortel Networks as an integral part of the system.
 - OEM or vendor R/R: the equipment is shipped directly to the Nortel Networks-specified location for a like-for-like replacement under a routine or emergency situation.
 - OEM or vendor tracking repair: the equipment is shipped directly to the vendor who repairs it and returns it to the customer address. Orders are tracked by Nortel Networks.
 - On-site vendor repair: the equipment is repaired by a Nortel Networks' specified vendor on the customer's premises.
- Material on loan (MOL) policy
 - The customer is invoiced for the current purchase price of any defective equipment not received by Nortel Networks within 30 days after shipment of a replacement part.

Note: A separate order must be placed for each project number.

Repair order information includes the following:

- Repair and return services are provided by Nortel Networks' Customer Services Operations (CSO) located in Richardson, Texas.
- Repair and replacement representatives can be reached between the hours of 8 a.m. and 5 p.m. CST, Monday through Friday at (800) 684-7888.
- Customer calls received after 5 p.m. weekdays, weekends, and holidays are received by the Remote Service Center, which then forwards the customer repair service requests to the appropriate on-call representative.
- Repair service requests are issued a Return Material Authorization (RMA) number for each request by Nortel Networks' CSO.
- RMA numbers are used for tracking individual orders and must be referenced on failure tags, shipping lists, and any correspondence or inquiries concerning the order.

Nortel Networks' CSO shipping address:

Nortel Networks CSO
400 N. Industrial Blvd.
Richardson, TX 75081

Note: Nortel Networks tracks DS-512 card warranty status by the project number that is stamped on the DS-512 card. It is important that the customer provide the correct project number for each defective DS-512 card returned to the Nortel Networks repair and replacement representative at the time of repair order placement. By providing the correct project number for each returned defective DS-512 card ensures accurate repair billing.

Operations Support Services includes the following:

- Technical Assistance Support (TAS): Nortel Networks makes available its TAS for the investigation and resolution of problems encountered in the operation of the covered switching systems. Requests and operational problems are classified according to severity and overall system's affect.
 - emergency TAS, which includes the following:
 - coverage 24 hours a day, 7 days a week
 - immediate assistance through telephone or remote access
 - diagnosis of cause and recommended actions to restore operational stability
 - on-site assistance is available through mutual agreement dispatch within 4 hours of mutual agreement (additional charges for travel and per diem expense, plus the then-current hourly rate, less a 25 percent discount)
 - routine TAS for S1 and S2 emergencies, which include the following:
 - coverage during Nortel Networks' business hours or a scheduled with a TAS supervisor
 - Nortel Networks response depending on problem severity, through telephone or remote access
 - diagnosis of cause and recommended actions to restore operational stability
 - on-site assistance available through mutual agreement dispatch within 24 hours of mutual agreement (additional charges for travel and per diem expense, plus the then-current hourly rate, less a 25 percent discount)
- technical information, which includes the following:
 - customer assistance to provide answers to a variety of questions with regard to the following:
 - system functionality
 - procedures
 - operation issues

- new features
- Nortel Networks' response is provided as quickly as possible and is limited to references to documentation, NTPs, or bulletins presently available to the customer.
- technical information provided by Nortel Networks during the business hours 8 a.m. to 5 p.m. CST, Monday through Friday

Service billing guidelines include the following:

- hardware warranty, which includes the following:
 - initial and extension hardware

The warranty for initial and extension hardware is 12 months from the date of turnover to the customer (K date), unless otherwise defined in purchase agreement.
 - repaired or replaced hardware

The warranty for repaired or replaced hardware is 30 days from the date of shipment or the remainder of the 12-month initial warranty, whichever is greater.
 - Material on Loan (MOL) policy

The customer is invoiced for the current purchase price of any defective equipment not received by Nortel Networks within 30 days after shipment of a replacement part.
 - emergency order surcharge

Emergency order charges and requests (normal emergencies) during Nortel Networks business hours are \$50 per request. Counter-to-counter charges and requests outside Nortel Networks business hours are \$150 per request.
- Technical assistance service

Nortel Networks provides customers with on-going technical assistance for the identification and resolution of technical issues in accordance with *DMS-100 and DMS-10 Family Service Priority Classification Description*. Some technical assistance requests are subject to billing.

- Post-Warranty Policy

Post-warranty customers who decline an extended service plan can receive services on a pay as you go basis at Nortel Networks' then current prices and a "Not to Exceed/Open" purchase order.

Maintenance support services

Flexible maintenance plans can be tailored to fit customer organization requirements. On-site maintenance offers an integrated range of services from total maintenance of a customer switching system (customer premises maintenance) to temporary, “as required”, support services (field support). Increments of one year, six months, one month are available to provide on-site maintenance to augment customer maintenance personnel.

Nortel Networks offers the services of the Remote Services Center (RSC), a centralized group of highly skilled technicians, business service advisors and service engineers with expertise in all areas of switch maintenance. Custom service can be designed to meet specific customer needs and to ensure that Nortel Networks’ equipment and associated equipment from other vendors is maintained at peak performance level.

Additional services, such as translations support, provide information for management purposes.

Offered individually or in packages, maintenance support services are available at all stages of system in-service: during the one-year warranty period which is included as options in the pre-established price of an Extended Service Plan (ESP) or in a post-warranty, non-ESP situation.

For additional information regarding Nortel Networks’ maintenance support services, contact your service account manager.

Maintenance support services are grouped into two areas:

- remote services
- field services

Note: Refer to Chapter 1, “List of telephone numbers,” for the telephone numbers of Nortel Networks’ departments and functions referenced in this chapter.

Remote services

Experienced personnel monitor customer switching activity from the RSC 24 hours a day, 7 days a week. Remote services offers a progression of two options that increase the level of support and include the following:

- remote surveillance
- remote maintenance

Remote surveillance

RSC personnel monitor customer networking switching activity 24 hours a day, 7 days a week.

Remote surveillance consists of the following:

- customer networks are monitored for critical and major system indicators
- customer networks receive immediate response to alarms that update the customer as to potential problems that can become major performance issues
- initiation of customer-defined call-out procedures

Remote surveillance includes the following features:

- customized alarm system and verification during the first month of service that ensures critical areas are monitored
- 24-hour monitoring of pre-established alarms
- initiation of customer-defined call-out procedures
- verification at a minimum of three times a day of communication links and network sanity checks. Each monitored location is manually accessed at least once during an eight-hour shift to check system status and integrity.
- pre-business day check

An activity report is provided that contains:

- troubles by type, number, and reason for call-out
- troubles resolved by the RSC
- status of Customer Service Reports (CSR)
- analysis of the Switch Performance Monitoring System (SPMS)

Remote maintenance

Remote maintenance includes the following:

- remote maintenance of all delivered features and benefits

- remote surveillance
- corrective and preventive maintenance controls

Nortel Networks monitors and provides routine network maintenance activity 24 hours a day, 7 days a week. Call out procedures are initiated as necessary in coordination with customer-designated personnel. As an additional service, Nortel Networks provides technicians at the customer's request to support the call-out requirements.

Remote maintenance includes all the features of remote surveillance, as defined previously, as well as the following:

- setup, control, and coordination of all preventive maintenance tasks, which include the following:
 - focused maintenance
 - network integrity
 - carrier maintenance alarms
 - OM thresholding
- control logs and administration
- trouble reporting and tracking
- assistance for software and hardware changes
- guidance and assistance to on-site technicians
- single point of contact for the customer

Remote maintenance After Hours

RSC personnel monitor customer networking switching activity 24 hours a day, 7 days a week.

Remote maintenance is handled on non-critical events after business hours.

Field services

Nortel Networks' field services provide on-site support for all the customer's business information systems, based on customer-defined requirements and time intervals. With resources available in over 100 cities, 24 hours a day, 7 days a week, field services supply the short or long-term expertise to cover unusual or unplanned situations and to fill specialized skills. Trained and experienced Nortel Networks' field service representatives complement the knowledge of the existing maintenance staff.

Field support

Nortel Networks' field support service offers networks operational personnel a variety of technical support activities, and information, which ranges from preventive maintenance tasks to performance measurements.

Field support is available on a monthly basis. It provides technical support to keep unexpected events from disrupting service, which allows customers to effectively manage costs and adapt to changing workloads. Field service offers a wide range of activities, which include the following:

- preventive and corrective maintenance activities
- implementation of new features and products
- system test tools training

Support services

Nortel Networks offers a variety of support services that are not related to a service contract. These services include the following:

- product documentation
- technical training
- software release and hybrid software upgrades
- disaster recovery plan

Note: Refer to Chapter 1, “List of telephone numbers,” for the telephone numbers of Nortel Networks departments and functions referenced in this chapter.

Documentation services

Nortel Networks offers electronic documentation on CD-ROM, which provides effective retrieval of information and, subsequently, in quicker problem resolution. Improved system understanding through a non-intimidating documentation medium means getting the most from Nortel Networks’ products.

Typically each product is shipped with an initial set of documentation that includes, but is not limited to, the following:

- Nortel Networks Technical Publications (NTP)
- general specifications
- customer-specific specifications and drawings

The prime medium for documentation is CD-ROM, though some documents are provided on paper. Quantities shipped are determined by contractual requirements. CD-ROM documentation can be ordered through Order Entry or through your account manager.

As a user of Nortel Networks’ documentation, you are reminded that these documents and the software programs required to read them are confidential and fall under federal government copyright laws. Confidentiality must be exercised as expressed in the original switch purchase agreement with Nortel

Networks. You can use the documentation furnished solely for the purpose of the study, operation, and maintenance of the Nortel Networks products to which the documentation pertains. You cannot sell, license, otherwise convey or allow, either directly or indirectly, access to the Nortel Networks Library or use of the documentation, to any other person, firm, corporation, or other entity without the prior written consent of Nortel Networks.

CD-ROM library

The documentation library resides on a single CD-ROM disc and is read using Helmsman*, a search engine that provides sophisticated search capabilities to quickly find the desired information.

Static documents, such as NTPs and general specifications, are available on CD-ROM to allow rapid access to information required to ensure effective operation of the Nortel Networks equipment.

Note: Some documents, such as vendor documents and engineering forms, do not lend themselves to this electronic medium and are delivered in paper form.

Helmsman 4.1 general information

Helmsman is Nortel Networks name for its family of electronic document delivery (EDD) products. From time to time, Nortel Networks releases new versions of Helmsman. When new software is released, an updated Helmsman CD is delivered when you are scheduled to receive a CD with updated documentation. Customers are advised to load new software versions as they are received. New versions include new features, fixes to reported problems, or both.

Helmsman 4.1 supports the UNIX* platform as well as Windows 95* and Windows NT*.

Use of Nortel Networks' Helmsman search engine allows operating company personnel to quickly select, search, and use the most current information available from the product documentation. Once accessed, documents can be easily retrieved, searched, and printed.

Helmsman 4.1 installation instructions

For installation instructions refer to the "Helmsman – Installation Instructions" and to the Adobe registration information packaged with the Helmsman disc.

Helmsman technical support numbers

For answers to questions about Helmsman installation or the Helmsman software, call the appropriate Helmsman technical support number given below in Table 6-1.

Table 6-1
Helmsman technical support number

Users	Hours (Mon. through Fri.)	Telephone
Customers in North America	Available 9 hours per day: 9:00 a.m. – 6:00 p.m. ET 6:00 a.m. – 3:00 p.m. PT	1-888 – HELMSMAN (1-888-435-6762) or 1-615-734-4848
—end—		

Helmsman coordinator in the United States

Table 6-2
Helmsman coordinator in the United States

Region	Name and Office	Telephone
Global Carrier Solutions	Global Carrier Solutions Information (GCSI), Richardson, TX	1-800-NTI-CARE
—end—		

Required equipment for CD-ROM

Helmsman uses Adobe Exchange* to render the documents and runs on personal computers (PCs) with Windows 95 or Windows NT operating systems. Adobe Exchange is provided as part of the Helmsman installation and together they require the following configuration:

- Platform: UNIX, Windows 95, or Windows NT 4.0
- Processor: 486 minimum; Pentium*, or Pentium Pro* recommended
- Disk space: 26 MB required for Helmsman and Adobe Exchange after installation is complete (more for other Adobe applications that come with the installation)
- Disk space for installation: 50 MB minimum
- Memory: 24 MB minimum; 32 MB RAM recommended
- Adobe Exchange: version 3.0
 - Banyan
 - LAN Manager

Training Center services

The Nortel Networks Training Center's programs are designed to ensure optimum results from the customer's telecommunications investment. The following list describes some of the benefits of the Training Center:

- Computer-based training: this training technology allows training of personnel while saving customers time and money.
- Training consultation services: these services assist customers to allow them to analyze performance objectives and decide on what types of training are needed to improve performance.

Course registration

To register for courses, contact the your SDMC Account Representative.

Software support policy

Nortel Networks provides new features and enhanced software functionality through the software release process. Due to the evolving nature of this demand driven process, it becomes necessary to define clearly the level of support associated with specific software loads as they move from one support category to another over time.

Support categories

Table 6-1 provides a description of the levels of support categories by Nortel Networks for installed new release software that is covered by a current Nortel Networks Software License Agreement.

Table 6-1
Nortel Networks levels of support

Category	Description
Current (C)	This category applies to production software available for shipment with new systems and software upgrade orders. Feature and operational functionality.
Active (A)	This category applies to software that is no longer available for shipment with new system orders, but can be purchased as a software upgrade. Feature packages that are part of the base release can be ordered. Feature and operational functionality are supported by TAS.
Retired (R)	This category applies to software no longer available for purchase. TAS is limited to problem diagnosis on a "reasonable effort" basis only.

Table 6-2 summarizes the support given to the software categories listed in Table 6-1.

Table 6-2
Summary of software categories

Category	Shipped with new systems	Shipped with software upgrades	Supported by NT TAS
Current	Yes	Yes	Yes
Active	No	Yes	Yes
Retired	No	No	Reasonable effort only

Table 6-3 describes the categories of the SuperNode Data Manager Carrier software loads:

Table 6-3
Categories of SuperNode Data Manager Carrier software loads

Software load	Status
SDMC09	Active
SDMC10	Active
SDMC11	Active
SDMC12	Active
SDMC13	Current

Initial warranty or extended service plan

While under warranty or an Extended Service Plan (ESP), customers receive emergency and routine services as part of their warranty or ESP service. Software operations ensure that all in warranty or ESP offices have an up-to-date software level.

Stand-alone software upgrade (non-ESP)

Software-related TAS is covered as part the software warranty, except as specified in “Service Billing Guidelines” during the software warranty period of (90 days).

Beyond software warranty

Software-related TAS beyond the software warranty period is billable at the then-current TAS rates. MNCL (if available per support category) are applied as part of CSR resolution.

Disaster Recovery Plan

If a customer experiences a physical disaster that results in the complete loss of service of the customer's Nortel Networks' switching equipment, the customer must contact TAS. Upon notification, Nortel Networks immediately activates the Disaster Recovery Plan.

A disaster recovery team is placed on alert and an on-site coordinator is immediately dispatched to the site to assess the extent of damage to the switch and facilities.

The on-site coordinator communicates his or her assessment to the Richardson coordinator, who then assembles all team members to formulate a detailed Disaster Recovery Plan. Each team member has access to the appropriate resources to direct the recovery effort.

The primary objective of the Disaster Recovery Plan is to restore basic telephone service to key personnel in the customer organization as soon as possible.

The secondary objective of the Disaster Recovery Plan is to restore the customer's Nortel Networks' switching equipment to complete operational status as soon as possible.

Follow these steps to implement the Disaster Recovery Plan.

- 1 The customer notifies TAS as soon as possible and relates the severity of the situation.
- 2 The TAS representative immediately notifies the Customer Support Director.
- 3 The Customer Support Director immediately activates the Disaster Recovery Team.
- 4 The Disaster Recovery Team assembles and identifies an on-site coordinator to be dispatched immediately to the customer site.

Note: The members of the Disaster Recovery Team include the following:

- Customer Support Director
- AVP Operations
- VP Technical Services
- Director Customer Service (if applicable)

- 5 The Disaster Recovery Team identifies installation and commissioning personnel who are immediately dispatched to the customer site.
- 6 The on-site coordinator determines the extent of damage and relates an assessment to the Disaster Recovery Team.
- 7 The Disaster Recovery Team determines, locates, and directs to the site the exact configuration of the replacement equipment that is required.
- 8 The on-site coordinator directs the installation and commissioning of the replacement equipment 24 hours a day, 7 days a week until permanent service is restored.

Note 1: Response times are contingent on availability of materials, transportation, disaster site facilities, and other contractual obligations.

Note 2: The customer is responsible for maintaining current backup software (image) on a DAT tape off-site. Nortel Networks recommends monthly archiving.

Note 3: Hospitals, medical centers, and other public health and safety facilities are given priority in the case of multiple disasters.

Note 4: The customer assumes all time, materials, and travel and living expenses involved that Nortel Networks incurs in the recovery effort.

Note 5: All decisions affecting the customer site are made jointly between the customer and Nortel Networks personnel.

Service billing guidelines

Hardware warranty

Initial and extension hardware

The warranty for initial and extension hardware is 12 months from the date of turnover to the customer (K date), unless otherwise defined in purchase agreement.

Repaired or replaced hardware

The warranty for repaired or replaced hardware is 30 days from the date of shipment or the remainder of the 12-month initial warranty, whichever is greater.

Material on Loan (MOL) policy

The customer is invoiced for the current purchase price of any defective equipment not received by Nortel Networks within 30 days after shipment of a replacement part.

Emergency Order Surcharge

Emergency Order charges and requests (for normal emergencies) during normal business hours of Nortel Networks are \$50 for each request. Counter-to-counter charges and requests after normal business hours of Nortel Networks are \$150 for each request. Nortel Networks' business hours

are 8 a.m. to 5 p.m., CST, Monday through Friday, except for holidays observed by Nortel Networks.

Technical assistance service

Nortel Networks provides customers with on-going technical assistance for the identification and resolution of technical issues in accordance with *DMS-100 and DMS-10 Family Service Priority Classification Description*. Some technical assistance requests are subject to billing.

Post-Warranty Policy

Post-warranty customers who decline an extended service plan can receive services on a pay-as-you-go basis at Nortel Networks then current prices and a “Not-to-Exceed/Open” purchase order.

List of terms

CASL	Customer Account Site Location
CBT	computer-based training
CCITT #6	Consultative Committee on International Telephony and Telegraphy standard no. 6
CD-ROM	Compact Disc Read-Only Memory
CPC	corporate product code
CPU	central processing unit
CSO	customer service organization
CSR	Customer Service Report
EDD	electronic documentation delivery
EIOC	enhanced input/output controller
EPIC	Extended Product Inventory Control
ESP	Extended Service Plan

ETAS	Emergency Technical Assistance Service
FCA	Field Change Application
GPS	global product support
GUI	graphic user interface
ISDN	Integrated Services Digital Network
LAN	local area network
MADN	multiple access directory number
MOL	material on loan
NTP	Nortel Publication
OEM	original equipment manufacturer
OM	operational measurement
ONP	One Night Process
PCP	printed circuit pack
PEC	product engineering code
PO	purchase order
PRSU	Post-Release Software Unit

RMA	return material authorization
RSC	Remote Services Center
RTS	Return to Service
SNS	Switch Network System
SPMS	Switch Performance Monitoring System
SS7	Signaling System Number 7
TAS	Technical Assistance Service
TCN	Travel Card Number
UCS	Universal Carrier Software

Ordering information

Use the following table for ordering Nortel NTPs (Northern Networks Technical Publications) and PCLs (Product Content Loads):

Type of product	Source	Phone	Cost
Technical documents (paper or CD-ROM)	Nortel Networks Product Documentation	1-877-662-5669, Option 4 + 1	Yes
Individual NTPs (paper)	Merchandising Order Service	1-800-347-4850	Yes
Marketing documents	Sales and Marketing Information Center (SMIC)	1-506-674-5470	No
PCL software	Nortel Networks	Consult your Nortel sales rep- resentative * Employee	Yes

When ordering publications on CD

Please have the CD number and software version available, for example, **HLM-2667-001-ENCDRPDF 02.03**.

When ordering individual paper documents

Please have the document name and number available, for example, **297-2667-900, SDM/C User Guide**.

When ordering software

Please have the eight-digit ordering code, for example, **SDMC13**, as well as the ordering codes for the features you wish to purchase. Contact your Nortel Networks representative for assistance.

Digital Switching Systems
SuperNode Data Manager
Carrier
Service Operation Support Manual

Product Documentation—Dept 3423
Nortel Networks
P.O. Box 13010
RTP, NC 27709–3010
1-877-662-5669, Option 4 + 1

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