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1001t Maintenance and Diagnostics Guide

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Preface

About this guide

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Overview

Introduction

The *Nortel Symposium Call Center Server 1001t Maintenance and Diagnostics Guide* provides information and instructions for maintaining the current functions of a Nortel Symposium Call Center Server, and for troubleshooting any problems that may arise.

For information on using or administering other tools and features of the Symposium Call Center Server components, refer to the appropriate document. To find out which document you need, see “Related documents” on page xxx.

Who should read this guide

This guide is for administrators, technicians, and engineers responsible for maintaining the Symposium Call Center Server.

Assumptions

This guide assumes that you are planning to maintain or troubleshoot an existing Symposium Call Center Server system.

Skills you need

Purpose	This section describes the skills and knowledge that you need to use this guide effectively.
Nortel product knowledge	Knowledge of, or experience with, the following Nortel (Northern Telecom) products will be of assistance when administering the Symposium Call Center Server: • Meridian Mail • Meridian 1 • X11 Release 22 and greater • Nortel Symposium Call Center Server
PC experience or knowledge	You must have experience with the following PC products to administer the Symposium Call Center Server: • Microsoft Windows 95 or Windows NT • client/server architecture • Internet Protocol (IP)
Other experience or knowledge	Other types of experience or knowledge that may be of use include the following: • database management • programming

Inside this guide

Purpose

The *Nortel Symposium Call Center Server 1001t Maintenance and Diagnostics Guide* is structured as follows:

Chapter 1, “Getting started,” provides a description of the 1001t configuration. It also describes the tools you should have on hand and the safety precautions you should take to prepare for maintenance activities. Finally, this chapter describes login procedures for the Windows NT server and the Symposium Call Center Server.

Chapter 2, “Preventative maintenance,” describes the preventative maintenance measures you can take to ensure that your system continues to operate properly. It includes procedures for performing hardware test diagnostics.

Chapter 3, “Monitoring operations,” provides procedures for managing alarm information, event report logs, event code preferences, and server controls. These functions enable you to be constantly aware of the state of the system.

Chapter 4, “Performing hardware maintenance,” explains how to expand the capabilities of your system and upgrade or replace hardware.

Chapter 5, “Performing software maintenance,” explains how to install and configure Windows NT and MS-DOS.

Chapter 6, “Backing up and restoring data,” explains how to back up system data and schedule backups. This chapter also contains procedures for recovering the Symposium Call Center Server Database and data files, and for restoring them from a hard drive failure.

Chapter 7, “Performing and interpreting start-up diagnostics,” provides procedures for performing start-up diagnostics tests, and analyzing the results of those tests.

Chapter 8, “Run-time diagnostics,” explains how to use and analyze the results of online diagnostics, in addition to serial port diagnostics.

Chapter 9, “Migrating to another platform,” provides the procedures for migrating the Symposium Call Center Server from one platform to another.

Chapter 10, “Performing remote tasks,” provides the procedures for remote tasks, including installing pcANYWHERE32 and accessing the system from remote sites to run MAT.

Appendix A, “Nortel Symposium Call Center Server event codes,” lists all of the event codes generated by Symposium Call Center Server features. For each code, the severity, a description, and a recovery path are provided.

Appendix B, “Nortel Symposium Call Center Server feature event codes,” lists all of the event codes generated by Symposium Call Center Server features. For each code, the severity, a description, and a recovery path are provided.

Appendix C, “Nortel Symposium Call Center Server return codes,” gives a list of the return codes, which provide additional information about events in the Event log. For each code, a description is provided.

The **Glossary** defines terms used in this manual, as well as related terms.

Related documents

Introduction This section lists the documents in which you can find additional information related to the Symposium Call Center Server.

Symposium Call Center Server planning The following documents contain information on planning your Symposium Call Center Server.

If you need information about	Refer to
• determining the size of a Symposium Call Center Server installation • determining your hardware and software requirements • planning your installation	<i>Nortel Symposium Call Center Server Planning and Engineering Guide</i>
• using the Capacity Assessment Tool • planning a new Symposium Call Center • hardware requirements for upgrading your current Symposium Call Center Server	<i>Nortel Symposium Call Center Server Capacity Assessment Tool User Guide</i>

Symposium Call Center Server installation The following documents contain procedures for installing the Symposium Call Center Server hardware and software.

If you need information about	Refer to
• performing the initial hardware installation for the 701t platform	<i>Nortel Symposium Call Center Server 701t Hardware Installation Guide</i>
• performing the initial hardware installation for the 1000t platform	<i>Nortel Symposium Call Center Server 1000t Hardware Installation Guide</i>
• installing your software	<i>Nortel Symposium Call Center Server Installation Workbook</i>

Symposium Call Center Server setup

The following documents pertain to the setup and configuration of the Symposium Call Center Server and the Meridian 1 switch.

If you need information about	Refer to
• setting up the server • logging in and out of the Symposium Call Center Server • assigning agents to supervisors and to skillsets • managing agents using phonesets	<i>Nortel Symposium Call Center Server Setup and Configuration Guide</i> and <i>Nortel Symposium Call Center Server Setup and Configuration Workbook</i>
• Meridian 1 switch configuration	<i>Nortel Symposium Call Center Server and Meridian 1 Guide</i>

Symposium Call Center Server administration

The following documents pertain to the administration and maintenance of the Symposium Call Center Server.

If you need information about	Refer to
• administering and maintaining the server	<i>Nortel Symposium Call Center Server System Administration Guide</i>
• creating and administering call center scripts	<i>Nortel Symposium Call Center Server Scripting Guide</i>
• troubleshooting for the 701t • hardware and software upgrades for the 701t • maintenance and diagnostics for Nortel support personnel	<i>Nortel Symposium Call Center Server 701t Maintenance and Diagnostics Guide</i>
• troubleshooting for the 1000t • hardware and software upgrades for the 1000t • maintenance and diagnostics for Nortel support personnel	<i>Nortel Symposium Call Center Server 1000t Maintenance and Diagnostics Guide</i>

Symposium Call Center Server documents The following documents pertain to the administration of the Symposium Call Center Server system.

If you need information about	Refer to
the support and administration of the Call Center application that runs on client PCs connected to the server	<i>Nortel Symposium Call Center Server Call Center Management Guide</i>
- database access - managing reports	<i>Nortel Symposium Call Center Server Data Access and Report Management Guide</i>
collecting historical statistics	<i>Nortel Symposium Call Center Server Historical Statistics Guide</i>
- setting up real-time displays - collecting real-time statistics	<i>Nortel Symposium Call Center Server Real-Time Display and Statistics Guide</i>

Symbols and conventions

Introduction

This section describes the symbols and conventions used in this guide.

Symbols

You may encounter the following symbols in this manual.



Danger: Warns you of an immediate hazard which, if not avoided, will result in serious injury or death.



Warning: Warns you of a situation in which you may be injured or equipment may be damaged if instructions are not followed exactly as stated.



Caution: Alerts you to situations where data may be lost or damaged, or when productive time may be lost.

Attention: Provides information essential to the completion of a task.

Note: Describes the secondary results of procedures or commands, or special conditions under which a procedure or command must be used.

Choosing commands for procedures

As with many Windows applications, there are several different ways you can perform the same task for many of the procedures in this guide. For example, to copy text, you could choose any of the following methods:

- Choose Copy from the Edit menu.
- Click Copy on the Tool bar.
- Press the keyboard shortcut Control + C.

This guide uses the following style: Choose Edit → Copy.

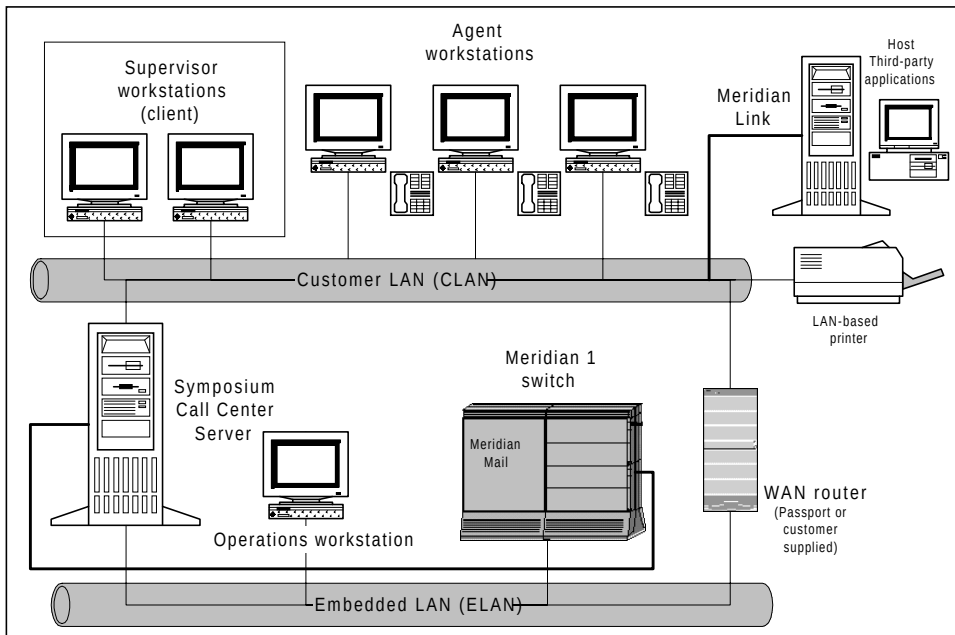
For the more complicated choices that arise from hierarchical menus, this guide simply extends the form. For example, if a procedure requires you to choose *Italic* from the Font menu, which is under the Format menu, this guide uses the following style:

Choose Format → Font → *Italic*.

The server and the client

The Symposium Call Center Server consists of three key components: telephony, server, and client. The telephony component includes the Meridian 1 PBX and its telephones. The server component is comprised of the call center server and network. The client is installed on the supervisors' workstations, and accesses the server over the customer's LAN.

The following illustration depicts these components.



In this guide, the terms “the server” and “the client” refer to these Symposium Call Center Server components. The term “1001t Server” refers to the 1001t Server hardware.

Additional information

Sensitive information

This guide contains sensitive information about maintaining your Symposium Call Center Server, including passwords, information that could damage the system, and expert procedures. Nortel recommends that access to this guide be restricted to system maintenance people only.

About online Help

Types of online Help

Online Help includes reference information such as context-sensitive help, field descriptions, and command and error message descriptions. Use online Help to find procedures for all tasks, as well as window and dialog overview information.

Button descriptions

For information about a button on the toolbar, hold your mouse cursor over the button. A description of the button's function appears in the lower left corner of the window.

Accessing Help

You can access Help in the following ways:

- Press F1 on your keyboard.
- Select What's this? to get context-sensitive help.
- Select Help from the Help menu to access the Help Topics window.

Chapter 1

Getting started

In this chapter

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Section A: The 1001t summary	1-3
Section B: Preparing for maintenance activities	1-11
Section C: Login procedures	1-21
Section D: Basic procedures	1-33

Overview

Introduction

This chapter contains information to help you get started maintaining your 1001t Server.

Section A, “The 1001t summary,” provides a description of the 1001t Server chassis, peripherals, and other components.

Section B, “Preparing for maintenance activities,” describes the tools and equipment required for performing maintenance procedures in the field. Recommended safety precautions for Electrostatic Discharge (ESD), handling cards, and handling your server are also included.

Section C, “Login procedures,” explains how to log in to Windows NT and access Windows NT Administrative Tools and Diagnostics. It also gives the procedure for logging in to the Symposium Call Center Server.

Section D, “Basic procedures,” explains some of the basic procedures you should be aware of before you begin maintenance of the 1001t Server. These include the proper procedures for shutting down and restarting the server, and creating boot disks.

Section A: **The 1001t summary**

In this section

Overview of the 1001t summary	1-4
1001t Server configuration	1-5
Controls and indicators	1-8

Overview of the 1001t summary

Introduction	To acquaint you with the 1001t Server, this section provides a descriptive summary and general information.
Descriptions	Included are descriptions of the following: • the server chassis • approved peripherals • required components • optional components • system controls and indicators
Obtaining the latest software	You should make sure that you have the most up-to-date software available. To obtain the software required by the server, contact your Nortel product distributor.

1001t Server configuration

Introduction	The 1001t Server is equipped with both PCI and ISA buses, one narrow and two wide SCSI channels, and onboard video. The server supports symmetrical multiprocessing (SMP), which allows multiple processors to operate simultaneously and increases overall processing power.
Server boards	The server board set includes the following: • a system board with seven PCI expansion slots, three ISA expansion slots, and several embedded controller devices (PCI video, SCSI, and IDE) • a memory module board with four SDRAM DIMM sockets for up to 512 Mbytes of memory
Processor	The 1001t Server uses one Pentium II processor. You can also upgrade to a dual-processor system.
Base system chassis	The system chassis consists of • three 360 W power supplies with cables and power share board (adds redundant, hot-swap power) • one vertical bay that contains a disk drive • three standard 5.25 in. bays for removable media devices • one bay mounted with hot-swap SCSI backplane with space for five 1 inch-high, 3.5 inch single connector attachment SCSI hard drives • nine I/O expansion slot covers • two blowers that cool the processor housing • three cooling fans • one control panel • retention mechanism to support dual Pentium II processors

The 1001t Server	The front view of the 1001t Server chassis shows the front panel, the 3.5 inch disk drive, 5.25 inch external bays, and the CD-ROM drive, and the SCSI hot-swap drive bays.
Standard system components	The following components are standard for the 1001t Server: • ELAN card and driver • SDRAM memory module with a minimum of 32 Mbytes of RAM • monitor, keyboard, mouse
Peripherals overview	The following components are standard peripherals for the 1001t Server. Keyboard, monitor, and mouse You must install a mouse, monitor, and keyboard to configure the system. You may remove them after running the System Configuration Utility (SCU). Disk drives One disk drive is pre-installed in the server. This 3.5 in., 1.44 Mbyte disk drive is required for software installation and related procedures. CD-ROM drive One CD-ROM drive is a minimum standard requirement for the server. This drive is required for software installation and configuration procedures. Tape drives One tape drive is a standard minimum requirement for the server. This drive is used to save and store data. A second optional tape drive can be installed in the media drive bay.

SCSI drives

Up to ten SCSI hard drives can be installed in the 1001t Server in the two hot-swap hard drive enclosures. All RAID systems have two SCSI backplanes.

Modem

A dial-up modem is standard and should be connected to the server through a serial port at the rear of the chassis. The modem should have a baud rate of 33.6 Kbps. Consult your Nortel authorized distributor for current models.

Optional system components

This list includes common optional system components. You can order a 1001t Server with these components installed:

- CLAN network card (Ethernet or Token Ring) and driver disk
- Mylex RAID card (with DAC960 driver and monitor disk, DAC 960 configuration disk, and two SCSI cables)
- an additional Pentium II processor
- Digi card (ISA)
- second tape drive
- additional hard drives
- more memory
- other peripheral devices, as described in the next section

Controls and indicators

Introduction

The front panel of the 1001t Server contains the server controls and indicators which provide information and messages about the server performance.

Front panel

The following table lists the server controls and indicators visible on the front panel of the 1001t Server.

Indicator or control	Function
Green hard drive activity LED	When lit, the LED indicates hard drive activity.
Yellow fan failure LED	When flashing, indicates the fan has failed.
Yellow power supply failure LED	When flashing, indicates a power supply has failed.
Ten yellow hard drive failure LEDs	When lit, indicates a drive failure in the associated drive bay.
Green power LED	When lit, indicates that the server is powered on. The LED goes out when the power is turned off or the power source is disrupted.
Power button	When pressed, turns the server AC power on or off.
Reset button	When pressed, resets the system and causes POST to run.

Peripherals

The following table lists the peripheral indicators and controls of the 1001t Server.

Indicator or control	Function
Disk drive activity LED	When lit, indicates the drive is in use.
Disk drive ejector button	When pressed, ejects the disk.
CD-ROM headphone jack	Connects headphones or speakers to the server.
CD-ROM volume control	Adjusts the volume of headphones or speakers.
CD-ROM open/close button	Opens and closes the CD tray.
CD-ROM activity LED	When lit, indicates the drive is in use.

***Section B:* Preparing for maintenance activities**

In this section

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Required tools and safety precautions	1-13
Avoiding electrostatic discharge	1-17
Handling cards	1-18
Handling hard drives	1-19

Overview of preparing for maintenance activities

Introduction

Maintenance activities are those tasks which you perform to ensure the proper functioning of your server or to fix any problems that may occur. Before you begin any maintenance activities, you should review all recommended safety precautions and collect all the tools you will need.

This section discusses the tools and equipment required for performing maintenance procedures in the field. Recommended safety precautions for Electrostatic Discharge (ESD), handling cards, and handling your server are also included.

Required tools and safety precautions

Introduction

If you need to replace or upgrade any system parts, you should follow the tools and safety guidelines. Following Nortel's safety precautions can prevent personal injury and damage to the server or replacement parts.



Caution: Field maintenance should always be performed by fully qualified, trained personnel.

Maintenance tools and materials checklist

Use this checklist to ensure that you have all of the required tools and materials you need to perform maintenance and diagnostics tasks.

Check	Description
	Phillips cross-head screwdriver (Swiss Army knife recommended)
	Standard slot-head screwdriver (1/4" and 1/2")
	Sidecutters
	Jumper removal tool or needle-nosed pliers
	Tape measure for determining cable lengths
	Antistatic ESD wrist strap (recommended)
	Pen or pencil for writing notes, cable lengths, and cable identifications
	Flashlight for examining interior of chassis
	Cable tie wraps
	Three blank tapes for full backup procedure
	Three blank tapes for partial backup procedures
	Head cleaning tape kit

Check	Description
	Cable identification labels
	Equipment log. This is used to record the model and serial number of the system, all installed options, and other information.
	Microsoft DOS 6.20 disks. These disks are used for reinstalling the operating system for maintenance and diagnostics.
	Nortel Symposium Call Center Operating System Setup Disks. The three disks are used to update the software drivers, if required.
	Nortel Symposium Call Center Server Operating System CD-ROM. This CD-ROM also includes the pcANYWHERE32 software. This will be used to allow remote access by Nortel service.
	Nortel Symposium Call Center Server Application Release 1 CD-ROM. This contains the setup program and all software to be installed on the server.
	Nortel Symposium Call Center Client Application Release 1 CD-ROM. This contains the setup program and all software to be installed on the client PCs.
	Emergency repair disk. This contains the configuration data for Windows NT.
	System Configuration Utility (SCU) disk
	Intel Ethernet LAN Adapter Driver disk
	SCSI driver disk
	Adaptec 7800 Family SCSI Controller Driver disk

Check	Description
	Keycode data. This governs what software features you will be installing.
	Intel PCDIAGS v3.48B or higher disks. These disks are used for maintenance and diagnostics.
	RAID driver disk (DAC960 driver disk) and configuration disk (DAC960 configuration disk)

Approved replacement parts

Contact your Nortel sales representative or dealer to obtain approved add-in cards and peripheral devices. Using non-approved replacement parts may cause serious system problems or void your Nortel warranty.

General safety

Nortel recommends that you observe these safety guidelines as you work on your server:

- Plug the computer and peripheral devices into properly grounded power sources to prevent electric shock.
- Use a surge protector or uninterruptible power supply to protect your system from sudden increases and decreases in electrical power.
- Ensure that nothing rests on your server's cables, and that cables will not be tripped over or stepped on.
- Do not push any objects into the openings of your server.

Safety precautions for working with your server

Observe these safety guidelines before removing the top cover of your server:

1. Shut down the operating system.
2. Turn off all peripheral devices connected to the server.

3. Turn off the system by using the push-button on/off power switch. Unplug the AC power cord from the system or wall outlet.
4. Label and disconnect all peripheral cables and all telecommunication lines connected to the I/O connectors or ports on the back of the system.
5. Provide electrostatic discharge (ESD) protection by wearing an antistatic wrist strap attached to the chassis ground of the system when handling components. You may attach your wrist strap to any unpainted metal surface.



Warning: The power button on the front panel of the server *does not* turn off the AC power. To remove AC power from the server, you must unplug the AC power cord from each power supply or wall outlet.



Danger: Hazardous voltage, current, and energy levels are present inside the power share board. There are no user serviceable parts inside it; servicing should only be done by technically qualified personnel.

Cooling and airflow

For proper cooling and airflow, always install the chassis top cover before turning on the system. Operating the system without the cover in place can damage system parts.

Avoiding electrostatic discharge

Introduction Electrostatic discharge (ESD) can seriously damage component parts such as disk drives. Nortel recommends that the maintenance procedures described in this section be performed at an ESD workstation.

Antistatic wrist strap If an ESD workstation is not available, you can provide some ESD protection by wearing an antistatic wrist strap. Ground the ESD wrist strap by attaching it to any unpainted surface on your system chassis.

While you work As you work inside the server, periodically touch an unpainted surface to discharge any static your body may have accumulated.

Conductive foam pads Motherboards and add-in cards are extremely sensitive to ESD. After removing a card from its protective wrapper or from the system, place it component-side up on a conductive foam pad. If possible, use antistatic floor pads and workbench pads.



Caution: Do not place a motherboard or an add-in card on its packaging wrapper. Do not slide a motherboard or an add-in card over any surface.

Handling cards

Introduction

Electronic components are sensitive to the environment and to electrostatic discharge. To protect equipment and prolong the useful life of components, Nortel recommends that you follow these precautions.

Avoid electrostatic discharge

Electrostatic discharge (ESD) affects the performance of system components, and can also decrease their useful life. Use caution when handling memory modules, CPU modules, and add-in cards to prevent damage. Wear an ESD wrist strap when handling system parts.

Precautions for handling cards

These precautions are recommended for any procedure that includes an add-in card:

- After removing a card from its protective wrapper, or from the server, place it component-side up on a grounded, static-free surface.
- Do not slide a card over any surface.
- Do not touch card components or gold-edge connectors on the card.
- Hold a card by the top edge, or by the side edges.

Precautions for installing cards

When installing cards on the server, remember the following:

- The backplane is flexible and supported with stand-offs.
- Card slots resist connector insertion.
- Firm, steady force seats a card in its slot properly.
- Cards seat with friction followed by a solid stop.
- External connector plates, attached to add-in cards, are seated in the rear panel and secured with a screw.

Handling hard drives

Introduction

This section provides important instructions for handling hard drives. To protect equipment and prolong the useful life of hard drives, Nortel recommends the following precautions.



Warning: Risk of equipment damage. Hard drives are extremely sensitive to vibration and physical shock. Read this section carefully.

Avoid vibration or physical shock

Hard drives are susceptible to even slight vibrations. A hard drive could be damaged if it is placed on a table that is accidentally knocked or moved. Use caution when handling hard drives to prevent damage.

Handle hard drives with care

Any procedure that includes a hard drive requires the following precaution. After removing a hard drive from its protective wrapper or from the server, place it on an antistatic padded workbench or workstation to avoid movement or jarring.

Check for shipping damage

If your hard drive is shipped independently for either an upgrade or a replacement, take note of any dents or damage on the padded container and packaging. Keep the container to prove that the part was damaged during shipping and handling.

Remove hard drives with care

When replacing hard drives in a non-RAID system, ensure that the drive has stopped spinning before removing it from the server. When removing hot-swappable hard drives in a RAID system, you do not have to wait for them to stop spinning. For more information about replacing hard drives, see Chapter 4, “Performing hardware maintenance.”

Store hard drives carefully

If you purchase extra hard drives, store these hard drives in the original padded container. Store the disks away from places where they might be moved or jarred.

Section C: Login procedures

In this section

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Accessing Windows NT Administrative Tools	1-26
Accessing Windows NT diagnostic utilities	1-28
Logging in to the Symposium Call Center Server	1-29

Overview of login procedures

Introduction

Before you can access diagnostic tools, you must log in to Windows NT and the Symposium Call Center Server.

The section provides login procedures, and explains how to access the Windows NT Administration Tools and diagnostics.

Logging in to Windows NT

Purpose

This section describes how to log in to the Windows NT server with administrator privileges. It also describes how to change the password, and how to change the computer name and workgroup.

Logging in to Windows NT

To log in to Windows NT, follow these steps.

Starting Point: The 1001t Server

Step	Action

1	Start the server and launch Windows NT.
2	Press Ctrl-Alt-Del. Result: The login dialog displays.
3	Type Administrator as the User ID.
4	Type the Windows NT password for the Administrator ID. Note: The default password is abc123 . Nortel recommends that you change the password from the default as soon as possible to ensure system security. For instructions, see "Changing the password" on page 1-24.
-

Changing the password

To change the password, follow these steps.

Step	Action
1	Log in to the server as Administrator. Use the default password. Example: Type the password abc123 .
2	Press Ctrl-Alt-Del. Result: The system allows you to change the administrator password.
3	Select Change Password.
4	Enter the old password, and press Tab.
5	Enter the new password, and press Tab. Note: Nortel recommends that you create a complex password using a minimum of nine alphanumeric characters.
6	Enter the new password a second time for confirmation.
7	Select OK.
8	Select Cancel. The system exits the Windows NT Security window and returns to the Program Manager.

Changing the computer name and workgroup

To change the computer name and workgroup, follow these steps.

Step	Action
1	Double-click the Control Panel icon.
2	Double-click the Networks icon. Result: The Network Settings window appears.
3	Select the Change button next to the Workgroup Name.

Step Action

4	Change the Workgroup name for the local site. Note: The server must not belong to a Domain.
5	Select OK to continue.
6	Select the Change button next to the Computer Name.
7	Change the Machine Specific Computer Name for the local site.
8	Select OK to continue.
-

Accessing Windows NT Administrative Tools

Purpose Follow the procedures in this section to access Windows NT Administrative Tools.

Accessing Administrative Tools To open the Windows NT Administrative Tools window, follow these steps.

Starting Point: Windows NT Program Manager (on the server)

Step	Action

1	Log in to the server as the administrator.
2	Double-click the Administration Tools icon.



Services available through Administrative Tools The following services are available from Windows NT Administrative Tools (see the illustration above):

- User Manager for Domains
- Server Manager
- Disk Administrator
- Performance Monitor

- Backup
- Event Viewer
- User Profile Editor
- Windows NT Diagnostics

For more information, consult your Windows NT documentation.

Accessing Windows NT diagnostic utilities

Purpose

This section describes how to access diagnostic utilities through Windows NT on the 1001t Server.

Note: Distributors should get new or changed passwords from their customers.

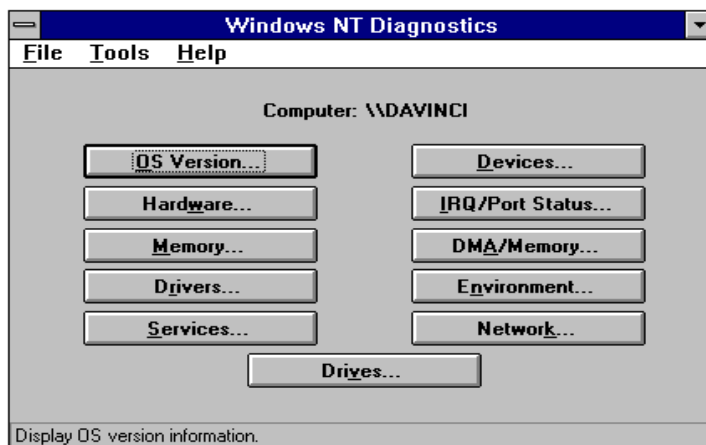
Accessing Windows NT diagnostic utilities

To access Windows NT diagnostic utilities, follow these steps.

Step	Action

1	Log in to the server as the administrator.
2	Double-click the Administrative Tools icon.
3	Double-click the Windows NT diagnostics icon.

Result: The Windows NT Diagnostics window appears.



Logging in to the Symposium Call Center Server

Purpose	Before you can access the Symposium Call Center Server services, you need to know how to log in to the system.
Assumptions	This procedure assumes the following: • You know the user ID and password to log in to the MAT Navigator. If you do not know this information, contact your system administrator or your call center administrator. • The site and systems you want to access have been set up and configured in the MAT Navigator. To set up sites and systems, refer to the <i>Nortel Symposium Call Center Server Software Installation Guide</i> for your platform, or the <i>Nortel Symposium Call Center Server System Administration Guide</i>. • You know the user ID and password to log in to the application system. If you do not know this information, contact your system administrator or your call center administrator.
Logging in for the first time	If you are logging in to the application for the first time after the system has been installed, refer to the <i>Nortel Symposium Call Center Server Setup and Configuration Guide</i>. Once you have logged in to the system, you can create a desktop shortcut to reduce the number of steps involved in the procedure. For information on how to create a desktop shortcut, refer to the <i>Nortel Symposium Call Center Server System Administration Guide</i>.

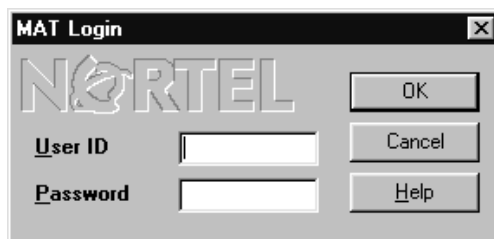
Logging in to the Symposium Call Center Server

To log in to the Symposium Call Center Server, follow these steps.

Step	Action

1	From the Start menu, select Programs → Mat → Navigator.

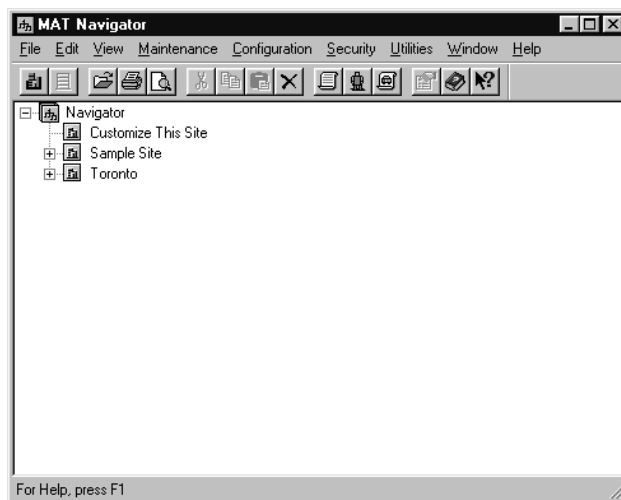
Result: The MAT Login dialog appears.



2	Enter your user ID and password.

Note: If you do not know this information, contact your Nortel representative.

Result: The MAT Navigator window appears.



Step Action

- 3 In the MAT Navigator window, double-click the icon of the site to which you want to connect.
- 4 Double-click the icon of the system to which you want to connect.

Result: The Symposium Login dialog appears.



- 5 Enter your User ID and password.
Note: If you do not know this information, contact your Nortel representative.
- 6 Click OK.

Result: The Symposium System window appears.

If a connection could not be made, an error message stating that a server connection could not be established is displayed.

Section D: **Basic procedures**

In this section

Overview of basic procedures	1-34
Shutting down the system	1-35
Restarting the 1001t Server	1-37
Creating boot disks	1-38

Overview of basic procedures

Introduction

This section describes the following basic Windows NT and 1001t Server procedures:

- shutting down the system correctly
- restarting the system correctly
- making boot disks

Shutting down the system

Purpose

Follow the procedures in this section to shut down the 1001t Server properly.



Caution: Do not press the power button on the front of the server to shut down your system. Doing so may result in file corruption. If possible, perform the system shutdown described in this section instead.

Shutting down the server

To shut down the 1001t Server from Windows NT, follow these steps.

Starting Point: On the Server, in the Windows NT Program Manager

Step	Action
1	Choose File → Shutdown.
2	Click the Shutdown radio button.
3	Click OK.
Result: The server is shut down.	

Rebooting to Windows NT

To restart the server and boot to Windows NT, follow these steps.

Starting Point: The Windows NT Program Manager

Step	Action
1	Double-click the Main icon. Result: The Main window appears.
2	Double-click the Command Prompt icon. Result: The MS-DOS Command line prompt window appears.

- 3 At the MS-DOS prompt, type **BootNT**.
Result: The following message appears:
1 file(s) copied. Boot to Windows NT after the next system reboot.
 - 4 Type **Exit** to return to Windows NT.
 - 5 Access the Windows NT Program Manager.
 - 6 Choose File → Shutdown.
 - 7 Select Restart.
 - 8 Click OK.
Result: The server is shut down and booted to Windows NT.
-

Restarting the 1001t Server

Purpose

Follow the procedure in this section to restart the 1001t Server properly.



Caution: Do not press the restart button on the front of the server to reboot your system. Doing so may result in file corruption. If possible, perform a system shutdown instead.

Restarting the 1001t Server

To restart the 1001t Server, follow these steps.

Starting Point: The Windows NT Program Manager window

Step	Action
1	Choose File → Shutdown.
2	Select Restart.
3	Click OK.

Creating boot disks

Purpose If the system does not boot from the hard drive, you will need to start it from a boot disk. Follow the procedures in this section to make any disk bootable.

Choosing a procedure If you have access to a computer which is running properly, use the first procedure in this section. If not, you can still create a boot disk by following the second procedure.

Creating a boot disk To make a boot disk on a computer that is running properly, follow these steps.

Step	Action
1	Start MS-DOS 6.20.
2	Insert the disk that you want to make bootable into the disk drive (drive a:).
3	Type sys a: and press Enter.
4	Type copy c:\dos\himem.sys a:\ and press Enter.
5	Create a config.sys file on the disk that contains the following lines: device=himem.sys dos=high Note: Refer to MS-DOS documentation for more information on creating boot floppies.

-
- 1 Start MS-DOS 6.20.
 - 2 Insert the disk that you want to make bootable into the disk drive (drive a:).
 - 3 Type **sys a:** and press Enter.
 - 4 Type **copy c:\dos\himem.sys a:** and press Enter.
 - 5 Create a config.sys file on the disk that contains the following lines:
device=himem.sys
dos=high
Note: Refer to MS-DOS documentation for more information on creating boot floppies.
-

Creating a boot disk using the MS-DOS disk

Follow this procedure to create a boot disk using the MS-DOS installation disk. Use this procedure if you do not have access to a PC that is running properly.

Note: For this procedure, you are asked to switch the disks between disk drives A and B. Disk drives A and B are the same drive; therefore, you have to switch the disks for this *one* drive.

Step Action

- 1 Insert the MS-DOS installation disk into the disk drive, and restart the system.
Result: The MS-DOS Setup screen is displayed.
- 2 Press F3 twice to exit.
Result: The system displays the a:\ prompt.
- 3 Type **sys b:**
Result: The system asks you to insert a disk into drive b:.
- 4 Place the target disk in the disk drive and press Enter.
Result: The system asks you to insert a disk into drive a:.
- 5 Remove the target disk from the disk drive. Place the source disk back into the disk drive and press Enter.
Result: The system asks you to insert a disk into drive b:.
- 6 Reinsert the target disk into the disk drive and press Enter.
- 7 Continue to remove and insert the target and source disks as prompted until the following message appears: System transferred.
- 8 Reinsert the source disk and press Enter.
Result: The system returns to the a:\ prompt.
- 9 Type **expand himem.sys_ b:\himem.sys**
- 10 Reinsert the target disk.
Result: The system responds with this message:
himem.sys_ --> b:\himem.sys

Step	Action

11	Insert the source disk and press Enter. Result: The system responds with this message: 1 file expanded.
12	Once the system returns to the a:\ prompt, restart the computer. If you want to test the boot disk, restart the computer with the target disk in the disk drive.
-

Chapter 2

Preventative maintenance

In this chapter

Overview	2-2
Testing the motherboard components	2-3
Running PC DIAGS	2-5
Stopping PC DIAGS tests	2-9
Using PC DIAGS online Help	2-10

Overview

Introduction

There are three ways to diagnose system faults on the 1001t Server:

- using the PC DIAGS diagnostics package
- from startup, through Power-On Self-Test (POST) diagnostic reporting, as discussed in Chapter 7, “Performing and interpreting start-up diagnostics”
- using the TSTSERIO command line utility to test serial ports under Windows NT, as discussed in Chapter 8, “Run-time diagnostics”

This chapter describes the PC DIAGS diagnostics package.

Testing the motherboard components

Introduction

This section describes how to test motherboard components using the supplied PC DIAGS package. The following is a list of diagnostics that you can run using this procedure:

- real-time clock/calendar (RTC) chip
- programmable interrupt controller (PIC)
- programmable interval timer (PIT)
- custom Intel integrated circuit
- direct memory access (DMA)
- serial controllers (COM_1 and COM_2)
- parallel port (PARALLEL_1)
- video generic VGA
- RAID
- disks, CD-ROM, and tape drives
- Power-On Self-Test (POST)
- serial and serial port tests
- memory
- cache tests
- desktop and server management, and configuration tools
- plug and play tools
- math and central coprocessors
- PCI bus
- keyboards

Running enabled motherboard tests

To run all of the enabled motherboard tests, follow these steps.

Starting Point: The Server computer

Step Action

- 1 Start the Server.

Note: You have a ten-second time delay before the system defaults to Option 1--Windows NT version 3.51.

Result: The following menu appears after start-up:

Windows NT version 3.51

Windows NT version 3.51 (VGA)

MS-DOS

- 2 Move the cursor to MS-DOS and press Enter.

- 3 Type **Y** at the prompt for running diagnostic procedures.

Result: A series of color and system tests occurs. This series of tests takes approximately ten minutes to complete.

Running PC DIAGS

Purpose

PC DIAGs 3.48B is a Nortel-authorized PC diagnostics program. You should run PC DIAGS whenever you install or replace hardware on your server. Follow the procedures in this section to run PC DIAGS.

Attention: Console Redirection must be disabled in order to run PC DIAGS properly. To do so, follow the procedure on page 2-5. When you are finished running PC DIAGS, enable Console Redirection by following the procedure on page 2-7.

Requirements

To perform diagnostic tests with PC DIAGS, you require the following:

- blank media for the tape drive
- a CD-ROM for the CD-ROM drive
This must be available in order to properly test server components.
- PC DIAGS 3.48B or higher Executable diskettes (set of six diskettes)

Disabling Console Redirection

You must disable Console Redirection before you start to run PC DIAGS. To do so, follow these steps.

Step	Action
1	Power on the server.
2	When prompted, press F2 to enter the CMOS setup.
3	Use the arrow keys to navigate to the Advanced Options menu, and press Enter.
4	Navigate to the Console Redirection screen and ensure that it is disabled.

Step Action

5	Save any changes, and press Escape twice to exit the CMOS setup.
-

**Running PC
DIAGS**

To run PC DIAGS, follow these steps.

Attention: The results of the tests are stored only in RAM and will be removed if you restart the server.

Step Action

1	Ensure that console redirection is disabled so that no conflicts occur while running PC DIAGS.
2	Power down the server and reboot with the PC DIAGS Executables Disk #1 in the floppy drive. Result: The bootable PC DIAGS application creates a RAM disk and attempts to install itself there.
3	Insert PC DIAGS Executables Disk #2 when prompted and press Enter.
4	Insert PC DIAGS Executables Disk #3 when prompted and press Enter. Result: PC DIAGS is self-running software that probes the installed hardware to determine which tests to run. It then runs required tests and outputs messages to the monitor. Messages printed in red indicate failure.
5	Check the monitor messages for errors.
-

Viewing error logs To continue running PC DIAGS with this procedure, which enables you to review or redirect the test output, follow these steps.

Starting Point: The PC DIAGS menu on the server PC

Step	Action

1	Select the Options menu.

2	Select Edit Run-Time Flags.

Result: The /RE flag allows you to redirect error messages to a file. The /RS flag allows you to redirect status messages to a file.

**Viewing the
TEST.SUM file**

After PC DIAGS has run, it creates a file on the RAM disk called TEST.SUM. This file is a record of all tests run and the results of those tests. Check this file to determine the results of the diagnostic tests.

If the file is empty, then no errors occurred.

Note: If errors are found and corrected, diagnostics should be run again to confirm that the corrective actions were successful.

What's next?

Enable console redirection.

**Enabling Console
Redirection**

After you are finished running PC DIAGS, you should enable Console Redirection. To do so, follow these steps.

Step	Action

1	Restart the server.

2	Press F2 when prompted to enter the CMOS setup.

3	Use the arrow keys to navigate to the Advanced Options menu, and press Enter.

Step Action

4	Navigate to the Console Redirection screen and check that it is enabled.
5	Save any changes, and press Escape twice, to exit the CMOS setup.
-

Stopping PC DIAGS tests

Purpose You may need to stop PC DIAGS tests when they are running. Follow this procedure to stop testing.

Stopping PC DIAGS tests To stop any tests, press CTRL+BREAK. All testing is halted and any temporary files that the test may have created are deleted.

Attention: Do not use CTRL+C to stop tests. Temporary files will not be removed.



Caution: Do not break out of Real-Time Clock tests. It could cause system errors.

Using PC DIAGS online Help

Purpose

The PC DIAGS diagnostics package provides thorough online Help for all test groups, including test descriptions and troubleshooting hints.

You can also access Help for the following specific PC DIAGS functions:

- running tests
- stopping tests
- using menus
- command-line arguments
- run-time flags

Starting Help for a specific test group

To start Help for a specific test group, follow these steps.

Starting Point: On the Server, in the PC DIAGS menu-driven test interface

Step	Action
1	Select the specific test group for which you seek information.
2	Press F1. Result: The Help for that topic appears in a box on-screen.
3	Press Escape to exit the Help topic.

Starting Help for specific PC DIAGS functions

To start Help for specific PC DIAGS functions, follow these steps.

Starting Point: On the Server, in the PC DIAGS menu-driven test interface

Step Action

1	Select the specific PC DIAGS function for which you seek information.
2	Press F1. Result: The Help for that topic appears in a box on screen.
3	Press Escape to exit the Help topic.
-

Chapter 3

Monitoring operations

In this chapter

Overview	3-2
Section A: Managing alarm information	3-3
Section B: Managing event report logs	3-13
Section C: Managing event code preferences	3-27
Section D: Monitoring Server Performance	3-37

Overview

Introduction

This chapter contains procedures for tasks involving the Symposium Call Center Server alarms, event codes, and event code preferences. It describes how to access the following diagnostic features from the Symposium Call Center Server client:

- **Alarm Monitor** This feature indicates system problems that may require immediate attention.
- **Event Browser** This feature allows you to view system events that have occurred.
- **Event Preferences** This feature allows you to override the severity of a particular event.

Section A, “Managing alarm information,” explains how to open the Alarm Monitor window, and how to clear and print active alarms.

Section B, “Managing event report logs,” describes event report logs, event types and severity settings, and the Event Browser. It also explains how to set filtering criteria for event logs, and how to change the event log size. Finally, this section gives procedures for using the event throttling utility and the Windows NT Event Browser.

Section C, “Managing event code preferences,” describes event preferences. It explains how to create new, and modify existing, event preferences.

Section D, “Monitoring Server Performance,” explains how to open the Server Performance window, and how to print server performance data.

***Section A:* Managing alarm information**

In this section

Overview of managing alarm information	3-4
Opening the Alarm Monitor	3-5
Clearing active alarms	3-8
Printing active alarms	3-10

Overview of managing alarm information

- Purpose** The Alarm Monitor window allows you to access, clear, and print system alarm information while you work on the Client.
- If the administrator is logged in, the Alarm Monitor automatically pops up when a new alarm occurs in the system.
- Alarms** Alarms are used as notifiers for minor, major, and critical events, or for events that are defined as requiring immediate attention.
- Clearing alarms** “Clearing” means an alarm is removed from the Alarm Monitor window. This does not mean that the *alarm condition* is resolved. Alarms should be cleared manually from the Alarm Monitor only after the problem is solved.

Example

If an alarm appears with the description “Disk is 90% full,” simply clearing the alarm does not address the underlying problem of disk space shortage. Users should check the system disk space, remove temporary files, and possibly even order a larger hard drive. Once the problem is solved, then the alarm can be cleared.

Alarms may be cleared automatically by the system if the alarm condition changes. They can also be cleared by an operator from the Alarm Monitor window.

Refer to “Clearing active alarms” on page 3-8 for more information.

Opening the Alarm Monitor

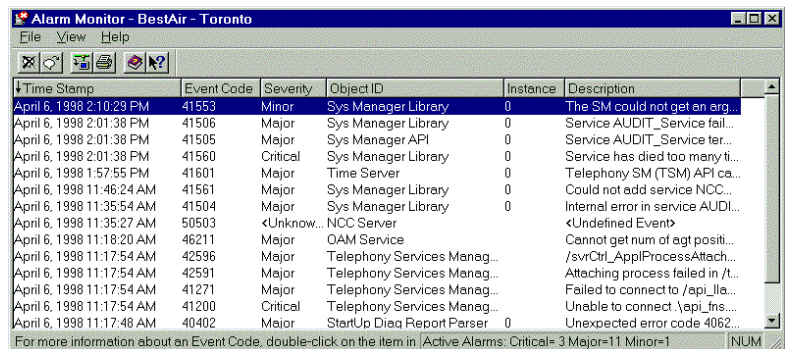
Purpose The Alarm Monitor window displays the time stamp, event code, severity, and other features.

Viewing the Alarm Monitor To access the Symposium Call Center Server Alarm Monitor, follow these steps.

Step Action

- 1 From the Symposium Call Center Server System window, choose Alarms & Events → Alarm Monitor.

Result: The Alarm Monitor window opens.



Time Stamp	Event Code	Severity	Object ID	Instance	Description
April 6, 1998 2:10:29 PM	41553	Minor	Sys Manager Library	0	The SM could not get an arg...
April 6, 1998 2:01:38 PM	41506	Major	Sys Manager Library	0	Service AUDIT_Service fail...
April 6, 1998 2:01:38 PM	41505	Major	Sys Manager API	0	Service AUDIT_Service ter...
April 6, 1998 2:01:38 PM	41560	Critical	Sys Manager Library	0	Service has died too many ti...
April 6, 1998 1:57:55 PM	41601	Major	Time Server	0	Telephony SM (TSM) API ca...
April 6, 1998 11:46:24 AM	41561	Major	Sys Manager Library	0	Could not add service NCC...
April 6, 1998 11:35:54 AM	41504	Major	Sys Manager Library	0	Internal error in service AUDI...
April 6, 1998 11:35:27 AM	50503	<Unknow...	NCC Server		<Undefined Event>
April 6, 1998 11:18:20 AM	46211	Major	OAM Service		Cannot get num of agt positi...
April 6, 1998 11:17:54 AM	42596	Major	Telephony Services Manag...		/svrCtrl_AppProcessAttach...
April 6, 1998 11:17:54 AM	42591	Major	Telephony Services Manag...		Attaching process failed in /t...
April 6, 1998 11:17:54 AM	41271	Major	Telephony Services Manag...		Failed to connect to /api_la...
April 6, 1998 11:17:54 AM	41200	Critical	Telephony Services Manag...		Unable to connect \api_ins...
April 6, 1998 11:17:48 AM	40402	Major	StartUp Diag Report Parser	0	Unexpected error code 4062...

For more information about an Event Code, double-click on the item in |Active Alarms: Critical= 3 Major=11 Minor=1 | NUM

- 2 Not all columns may appear in the window at the same time. To adjust the column widths, place the cursor on the bar between the column heading names and scroll to the left or right.

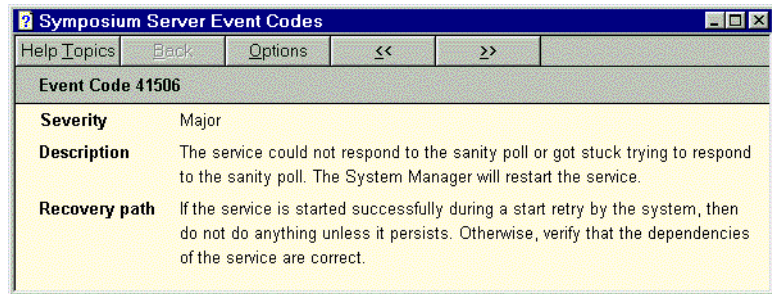
Alarm Monitor window fields

The following table describes the fields in the Alarm Monitor window.

Time Stamp	
Description	The date and time that the alarm occurred.
Event Code	
Description	The numeric identifier of the alarm
Severity	
Description	The severity level assigned to the alarm.
Possible values	Severity levels are Information, Minor, Major, and Critical. For a more detailed description, see “Severity definitions” on page 3-14.
Object ID	
Description	The program that generated the alarm.
Instance	
Description	The instance of the program that generated the alarm.
Possible values	Objects can have instances that are either numeric (for example, an object called processor when a system has two processors), or string (for example, User [Joe Smith]). Software objects do not usually have multiple instances and always show zero as their instance.
Description	
Description	An explanation of the cause of the alarm.

Obtaining more information about an alarm

To open the online Help for an alarm, double-click its entry in the Alarm Monitor list. The online Help contains detailed information about each entry, including a recovery path to correct or further investigate the problem.

**Recurring alarms**

If a known alarm keeps recurring, you may do one of the following to prevent it from continuing:

- Reduce the throttling threshold for that alarm from the default of 10 by using the nbflt_ci.exe utility, as described on page 3-24.
- Override the severity of that event to Information, so that it no longer appears in the Alarm Monitor. For more information, see "Managing event code preferences" on page 3-27.

Clearing active alarms

Purpose

Follow these steps to clear alarms using the Active Alarms window while you work on the Client.

Clearing active alarms

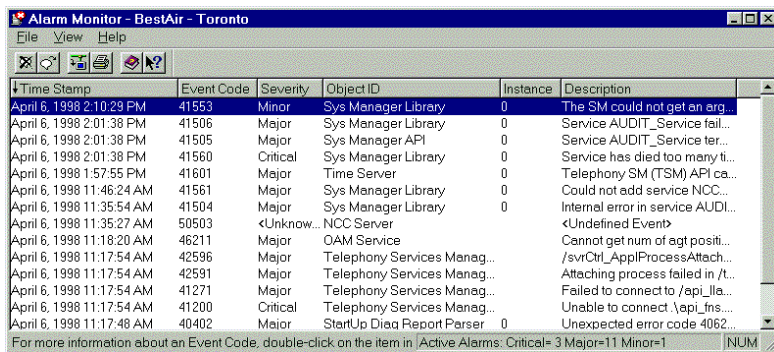
To clear an alarm, follow these steps.

Note: Clearing an alarm removes the reference from the Active Alarms window but does not resolve the problem.

Step Action

- 1 From the Symposium Call Center Server System window, choose Alarms & Events → Alarm Monitor.

Result: The Alarm Monitor window opens.



Time Stamp	Event Code	Severity	Object ID	Instance	Description
April 6, 1998 2:10:29 PM	41553	Minor	Sys Manager Library	0	The SM could not get an arg...
April 6, 1998 2:01:38 PM	41506	Major	Sys Manager Library	0	Service AUDIT_Service fail...
April 6, 1998 2:01:38 PM	41505	Major	Sys Manager API	0	Service AUDIT_Service ter...
April 6, 1998 2:01:38 PM	41560	Critical	Sys Manager Library	0	Service has died too many ti...
April 6, 1998 1:57:55 PM	41601	Major	Time Server	0	Telephony SM (TSM) API ca...
April 6, 1998 11:46:24 AM	41561	Major	Sys Manager Library	0	Could not add service NCC...
April 6, 1998 11:35:54 AM	41504	Major	Sys Manager Library	0	Internal error in service AUDI...
April 6, 1998 11:35:27 AM	50503	<Unknow...	NCC Server		<Undefined Event>
April 6, 1998 11:18:20 AM	46211	Major	OAM Service		Cannot get num of agt positi...
April 6, 1998 11:17:54 AM	42596	Major	Telephony Services Manag...		/svrCtrl_AppIProcessAttach...
April 6, 1998 11:17:54 AM	42591	Major	Telephony Services Manag...		Attaching process failed in /t...
April 6, 1998 11:17:54 AM	41271	Major	Telephony Services Manag...		Failed to connect to /api_lla...
April 6, 1998 11:17:54 AM	41200	Critical	Telephony Services Manag...		Unable to connect \api_fns...
April 6, 1998 11:17:48 AM	40402	Major	StartUp Diag Report Parser	0	Unexpected error code 4062...

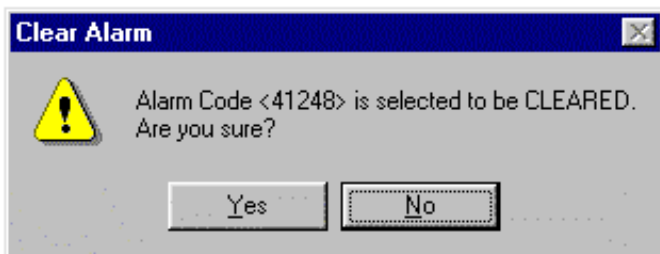
For more information about an Event Code, double-click on the item in |Active Alarms: Critical=3 Major=11 Minor=1| NUM

- 2 Select the alarm you wish to clear.

Step Action

- 3 Choose File → Clear Alarm.

Result: A dialog box asks you to confirm that you would like to clear the selected alarm.



- 4 Click Yes.
-

Printing active alarms

Purpose Follow the procedure in this section to print a single alarm, a range or a selection of alarms, or all of the alarms in the Alarm Monitor list.

Printing alarms To print the alarms in the list, follow these steps.

Step	Action

1	From the Symposium Call Center Server System window, choose Alarms & Events → Alarm Monitor.
2	Choose one of the following actions: • To print all of the alarms in the list, do not select any alarms. Continue to step 3. • To print a single alarm, select the alarm you wish to print. • To print a range of alarms, click the first alarm in the range. Hold down the Shift key and click the last alarm in the range. All alarms listed between the limits of the range are selected. • To print alarms that are not consecutive, hold down the Control key and click each alarm that you want to print.
3	Choose File → Print. Result: The Print Report dialog box appears.
4	Set the Print Range. • If you want to print all of the alarms in the list, set the Print Range to All. • If you want to print one or more alarms, set the Print Range to Selection.
5	Click Print. Result: The Print Preview window appears.
6	Verify that the print preview is correct.

Step Action

7 Click the Printer icon in the Print Preview window.

Result: The Print dialog box appears.

8 Select the appropriate information in the dialog box.

9 Click OK.

Section B: **Managing event report logs**

In this section

Overview of managing event report logs	3-14
The Event Browser	3-16
Filtering criteria for event logs	3-20
Changing the event log size	3-22
Using the event throttling utility	3-24
Using the Windows NT Event Viewer	3-26

Overview of managing event report logs

Introduction The event log lists all events that have occurred on your 1001t Server.

Event types There are several types of events:

- Information events provide system configuration, program status, and audit trails.
- Set events are used for setting alarms.
- Clear events are used for clearing alarms.

Log size The event log size is fixed. Once it is full, the log wraps around. That is, if the log is full and a new event is generated, the system removes the *oldest* event report in the log and replaces that log with the newest one.

Nortel recommends printing or saving any relevant sections of the event log in the event of a problem with your system. The logs help technical support representatives to conduct a thorough analysis of your system.



Caution: Only qualified Nortel technicians should make changes to the log size and wraparound settings.

Severity definitions Definitions for levels of severity follow.

Information

This severity indicates that an event is for informational purposes only. It is displayed on the Event Browser, but not on the Alarm Monitor. For example, it can be used to log changes like “Service xxx has started.” These events indicate something noteworthy to the operator and do not mean that a problem exists.

Minor

This severity indicates that a non-service-affecting fault condition exists, and that corrective action should be taken in order to prevent a more serious fault. For example, it might indicate that the file system is 90 percent full.

Major

This severity indicates that a service-affecting condition has developed and an urgent corrective action is required. The condition would cause severe degradation in the capability of the Managed Object, and its full capacity must be restored. For example, it might indicate that the file system is 100 percent full.

Critical

This severity indicates that a service-affecting condition has occurred and an immediate corrective action is required. Such a severity should be reported when a component is totally out of service and its capability must be restored. For example, if the file system has crashed, this event is displayed on the Alarm Monitor.

The Event Browser

Purpose

You can use the Event Browser window to view or print the event log.

Note: By default, only the first 100 *critical* events are displayed in the Event Browser. You can change the filter to view all events. For more information, see “Filtering criteria for event logs” on page 3-20.

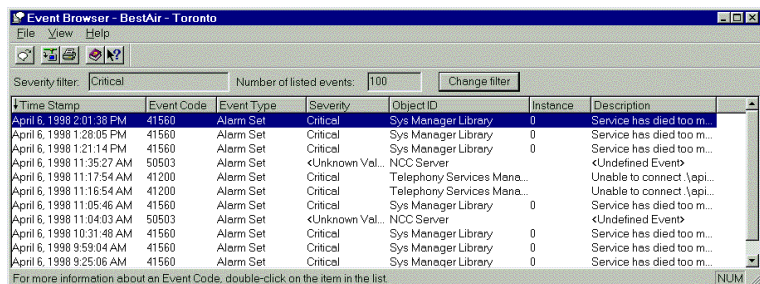
Viewing the Event Browser

To access the Symposium Call Center Server Event Browser, follow these steps.

Step Action

- 1 From the Symposium Call Center Server System window, choose Alarms & Events → Event Browser.

Result: The Event Browser window opens.



- 2 Not all columns may appear in the window at the same time. To adjust the column widths, place the cursor on the bar between the column heading names and scroll to the left or right.

Event Browser fields

The Event Browser contains the following fields.

Time Stamp	
Description	The date and time that the alarm occurred.
Event Code	
Description	The numeric identifier of the alarm.
Event Type	
Description	The type of event (for example, message).
Severity	
Description	The severity level assigned to the alarm.
Possible values	Severity levels are Information, Minor, Major, and Critical. For a more detailed description, see “Severity definitions” on page 3-14.
Object ID	
Description	The program that generated the alarm.
Instance	
Description	The instance of the program that generated the alarm.
Possible values	Objects can have instances that are either numeric (for example, an object called processor when a system has two processors), or string (for example, User [Joe Smith]). Software objects do not usually have multiple instances and always show zero as their instance.
Description	
Description	An explanation of the cause of the alarm.

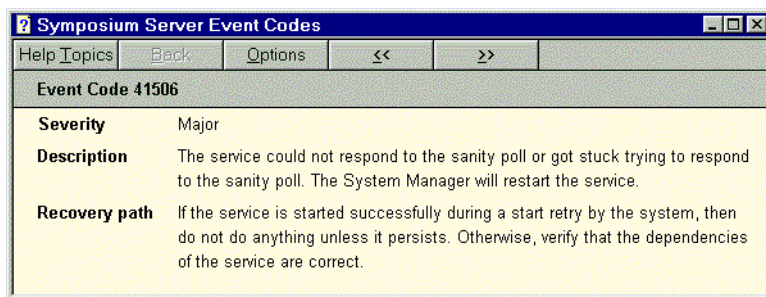
Sorting events

You can sort the list of events in the Event Browser window. To do so, click the header of the column by which you want to sort. For example, to sort the events by type, click the Event Type header.

Note: The default order lists the latest event first.

Viewing more detailed information

You can get more detailed information about an event code by double-clicking the event. The Event Code Reference window contains a full explanation of each event, and includes available recovery paths if required.

**Printing events**

To print the events in the list, follow these steps.

Step	Action
1	From the Symposium Call Center Server System window, choose Alarms & Events → Event Browser.

Step Action

- 2 Choose one of the following actions:
 - To print all of the events in the list, do not select any events. Continue to step 3.
 - To print a single event, select the event you wish to print.
 - To print a range of events, click the first event in the range. Hold down the Shift key and click the last event in the range. All events listed between the limits of the range are selected.
 - To print events that are not consecutive, hold down the Control key and click each event that you want to print.
 - 3 Choose File → Print.
Result: The Print Report dialog box appears.
 - 4 Set the Print Range.
 - If you want to print all of the events in the list, set the Print Range to All.
 - If you want to print one or more events, set the Print Range to Selection.
 - 5 Click Print.
Result: The Print Preview window appears.
 - 6 Verify that the print preview is correct.
 - 7 Click the Printer icon in the Print Preview window.
Result: The Print dialog box appears.
 - 8 Select the appropriate information in the dialog box.
 - 9 Click OK.
-

Filtering criteria for event logs

Purpose The event log filtering function allows you to customize your event log output to fit your own reporting requirements.

Filter settings The event log filter can be set to display the following:

- the 100 newest events
- a custom number of events
- all events (all events available on or retrieved from the system)

Severity filtering You can also filter events by severity. For example, if you set your filter to include all events with a severity of Minor, the filter displays all events with a severity of Minor and greater.

Changing the filtering criteria To change the event filter criteria, follow these steps.

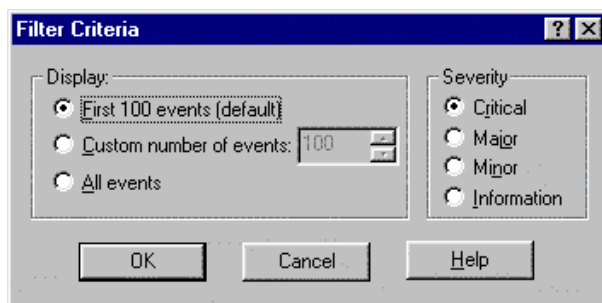
Step	Action

1	From the Symposium Call Center Server System window, choose Alarms & Events → Event Browser.

2	Choose File → Change Filter criteria.

Result: The Filter Criteria dialog appears.

Step Action



- 3 Set the Display criteria.
 - 4 Set the Severity level.
 - 5 Click OK to change the filter.
-

Changing the event log size

Purpose The event log stores all events that occur on the server. When the size settings are changed, the results affect the entire server. Only qualified Nortel technicians should make changes to these settings.

Log size changes Reducing the size of the log means that the events for fewer days can be stored. Increasing the log size reduces the amount of available disk space on the server, and may slow response times for retrieving events from the Event Browser.

Note: Changing the event log wrapping mechanism and size is not recommended.



Caution: Risk of data loss. Only qualified Nortel technicians should make changes to these settings.

Default event log size When you are changing the log size for the 1001t Server, do not use the Default button. The settings for this button correspond with the Windows NT default settings. During a Symposium Call Center Server installation, the log settings are changed to the following defaults.

Log name	Size	Event log wrapping
Application log	2048 kbytes	Overwrite events as needed.
System/security log	512 kbytes	Overwrite events as needed.

Changing the event log size

To change the event log size, follow these steps.

Starting Point: The Windows NT Program Manager (on the server computer)

Step Action

1 Double-click the Administrative Tools icon.

Result: The Administrative Tools window appears.

2 Double-click the Event Viewer icon.

3 Choose Log → Log Settings.

Result: The Log Settings dialog box appears.

4 Change the size for each log in the dialog box.

Note: Symposium Call Center Server events are stored in the Application log. Change the Application log size to change the number of events that are stored.

5 Click OK to accept the changes.

Using the event throttling utility

Purpose The event throttling utility (nbflt_ci.exe) is a server utility that allows you to determine a maximum number of specific events to be logged within a specific time interval. This utility is particularly useful when certain events are persistently logged and are visible in the Alarm Monitor and Event Browser.

Event throttling The event throttling feature prevents recurring events from filling up the log file. The same log statement is shown as an event in the Event Browser up to ten times. After the tenth time, the event will not be visible in the Event Browser for 30 minutes. The throttling feature is reset every 30 minutes and starts to show log events again.

Default setting The default setting, or threshold, of this utility allows a maximum of ten occurrences of any given event to be logged during a 30-minute interval. Ten is the recommended threshold, although you can change the default in steps 6 and 7 of the following procedure. Nortel recommends that you do not set a threshold that exceeds 15.

Running the throttling utility To run the event throttling utility, follow these steps.

Starting Point: On the server computer (while logged in as NGenDist or Administrator)

Step	Action
1	From the Windows Start menu, choose Programs → MS-DOS prompt.
2	Type nbflt_ci.exe .
3	Press Enter to select the local machine.
4	Type 1 to select TCP/IP.

Step Action

5	Type your user ID and password when prompted. Result: The Event Throttling Main menu appears.
6	Choose from the following options as required: • Type 1 to enable or disable Event Throttling. • Type 2 to view or change Threshold and Interval parameters for all event codes. • Type 3 to view or modify Threshold parameters for specific event codes. Specific event threshold parameters may be specified to override system-wide settings. • Type 4 to exit the utility.
-

Using the Windows NT Event Viewer

Purpose The Windows NT Event Viewer on the 1001t Server allows you to view events generated from applications not accessible through the Symposium Call Center Server client Event Browser. These include database events as well as Windows NT driver events.

When to use the Event Viewer Use the Windows NT Event Viewer if the Symposium Call Center Server Event Browser does not give a complete indication of a problem.

Opening the Windows NT Event Viewer To access the Windows NT Event Viewer, follow these steps.

Starting Point: On the Server at the Windows NT window (while logged in as NGenDist)

Step	Action

1	Double-click the Administrative Tools icon.
2	Click the Event Viewer icon in the Administrative Tools window. Result: The Event Viewer window appears.
3	Choose Log → Application. Result: The application enables you to view Symposium Call Center Server and other application events, including database events.
4	Choose Log → System. Result: The application enables you to view Windows NT driver events.
-

Section C: Managing event code preferences

In this section

Overview of managing event preferences	3-28
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Overview of managing event preferences

Introduction

You can use the Event Preferences window on the Client computer to override the default severity of event codes. For example, you can override an event with a default severity of Information so that all subsequent occurrences of this event have a severity of Minor. Previous occurrences of this event are not affected.

You may want to change the severity of an event for the following reasons:

- to increase the severity of an event (for example, from Information to Minor) so that it is displayed in the Alarm Monitor when it occurs
- to reduce the severity of a recurring alarm to Information so that it does not appear in the Alarm Monitor

You can revert to the default event definition at any time by deleting the event preference for that event code.

Viewing event preferences

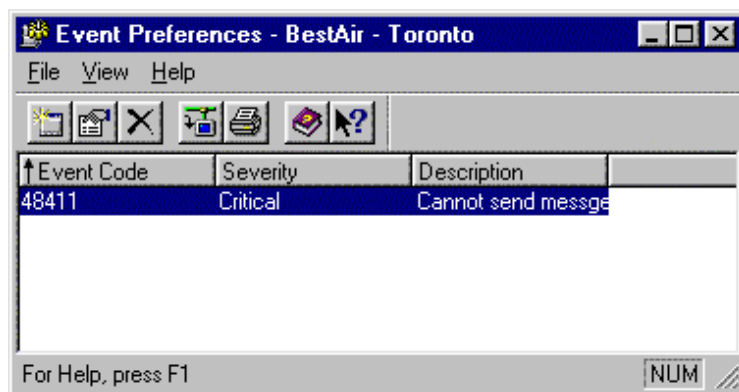
Purpose Use the Event Preferences window to add, modify, delete, and view event preferences.

Viewing event preferences To view event preferences, follow these steps.

Step	Action

1	From the Symposium Call Center Server System window, choose Alarms & Events → Event Preferences.

Result: The Event Preferences window opens.



Creating a new event preference

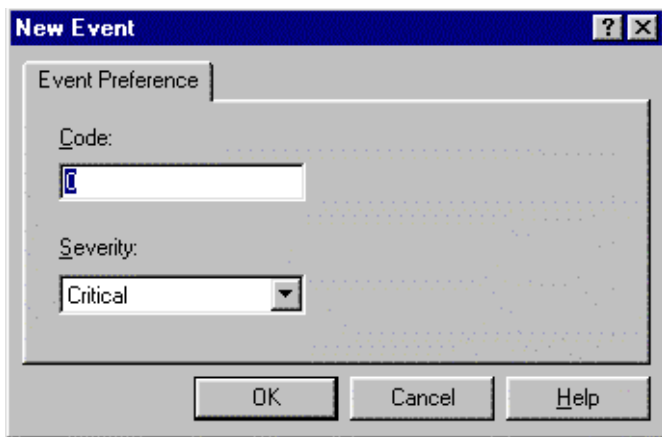
Purpose Follow the procedures in this section to create a new event preference.

Creating a new event preference To change the severity of an event, you must first create an event preference for the event. To do so, follow these steps.

Step Action

- 1 From the Symposium Call Center Server System window, choose Alarms & Events → Event Preferences.
- 2 Choose File → New.

Result: The New Event property page appears.



Step Action

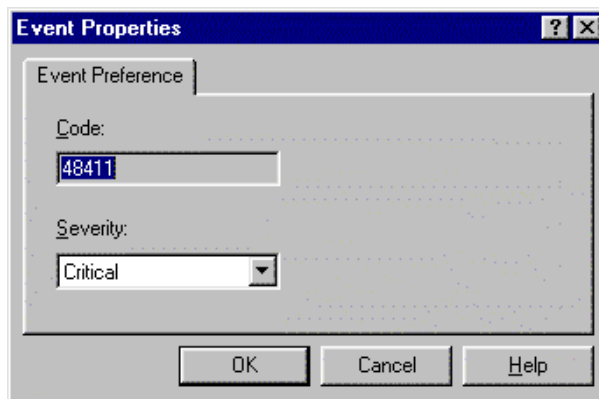
- 3 For Code, type the number of the event code for which you want to create an event preference.
Note: The system does not accept unrecognized event codes. For a complete list of valid event codes, see Appendix A, "Nortel Symposium Call Center Server event codes," and Appendix B, "Nortel Symposium Call Center Server feature event codes."
 - 4 Select the severity label appropriate to the event from the Severity drop-down list box.
 - 5 Click OK.
-

Modifying event preferences

Purpose Follow this procedure to change the default severity level for an event.

Changing severity level of an event To modify the severity of an event, follow these steps.

Step	Action
1	From the Symposium Call Center Server System window, choose Alarms & Events → Event Preferences.
2	Select the event code you wish to modify. Note: If the event code number that you want does not appear in the list, then there is no event preference for it. For information about creating a new event preference, see “Creating a new event preference” on page 3-30.
3	Choose File → Properties. Result: The Event Properties property page opens.
4	Change the severity level, as required.
5	Click OK.



Deleting event preferences

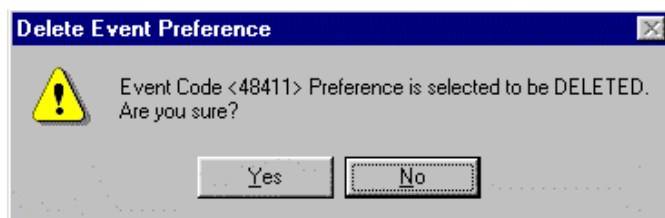
Purpose Follow this procedure to delete an event preference.

Deleting event preferences To delete an event preference, follow these steps.

Step	Action

1	From the Symposium Call Center Server System window, choose Alarms & Events → Event Preferences.
2	Click the event preference you wish to delete from the list.
3	Choose File → Delete.

Result: A confirmation message appears.



4	Click Yes to confirm that you wish to delete the event preference.
-

Note: Once an event preference is deleted, the system reverts to the default severity level for the selected event code. You cannot delete default severity definitions.

Printing event preferences

Purpose Follow the procedures in this section to print event preferences.

Printing event preferences To print a single event preference, follow these steps.

Step	Action

1	From the Symposium Call Center Server System window, choose Alarms & Events → Event Preferences.
2	Choose one of the following actions: • To print all of the event preferences in the list, do not select any event preferences. Continue to step 3. • To print a single event preference, select the event preference you wish to print. • To print a range of event preferences, click the first event preference in the range. Hold down the Shift key and click the last event preference in the range. All event preferences listed between the limits of the range are selected. • To print event preferences that are not consecutive, hold down the Control key and click each event preference that you want to print.
3	Choose File → Print. Result: The Print Report dialog box appears.
4	Set the Print Range. • If you want to print all of the event preferences in the list, set the Print Range to All. • If you want to print one or more event preferences, set the Print Range to Selection.
5	Click Print. Result: The Print Preview window appears.
6	Verify that the print preview is correct.

Step Action

7 Click the Printer icon in the Print Preview window.

Result: The Print dialog box appears.

8 Select the appropriate information in the dialog box.

9 Click OK.

Section D: **Monitoring Server Performance**

In this section

Using the Server Performance Monitor

3-38

Using the Server Performance Monitor

Purpose You can use the Server Performance Monitor window to view the server's current operating conditions. The window includes information about processor usage, available memory, and available storage space. Approximately every ten seconds, the window is updated with a new set of data.

Windows NT Performance Monitor For more detailed performance monitoring, use the Windows NT Performance Monitor tool on the 1001t Server. Accessible through the Administrative Tools window, this tool allows for great flexibility and precise monitoring of the system.

Opening the Server Performance Monitor To open the Server Performance Monitor, follow these steps.

Starting Point: The Symposium Server System window (on the 1001t Server)

Step	Action
1	From the Symposium Call Center Server System window, choose System Administration → Server Performance Monitor.

Time and Date	% Processor Usage	Free RAM (Byte)	% Free Disk Space
Wednesday, March 15, 2000 2:00:01 PM	3.777	9560064	15
Wednesday, March 15, 2000 1:59:51 PM	5.653	9633792	15
Wednesday, March 15, 2000 1:59:41 PM	3.787	9666560	15
Wednesday, March 15, 2000 1:59:31 PM	4.097	9637888	15
Wednesday, March 15, 2000 1:59:11 PM	4.093	9662464	15
Wednesday, March 15, 2000 1:59:21 PM	3.777	9678848	15

Server Performance Monitor window fields

The Server Performance Monitor window contains the following fields.

Time and Date

Description	The time and date when the data was logged.

% Processor Usage

Description	The percentage of processor capacity currently being used by all active services.

Free RAM (Byte)

Description	The amount of memory currently available (in bytes).

% Free Disk Space

Description	The percentage of disk space currently available.

Printing server performance data

To print server performance data, follow these steps.

Step Action

- 1 From the Symposium Call Center Server System window, choose System Administration → Server Performance Monitor.
- 2 Choose one of the following actions:
 - To print a single line of data, select the line you wish to print.
 - To print a range of information, click the first piece of information in the range. Hold down the Shift key and click the last piece of information in the range.
 - To print pieces of information that are not consecutive, hold down the Control key and click each piece that you want to print.

Step Action

- 3 Choose File → Print.
Result: The Print Preview window appears.
 - 4 Verify that the print preview is correct.
 - 5 Click the Printer icon in the Print Preview window.
Result: The Print dialog box appears.
 - 6 Select the appropriate information in the dialog box.
 - 7 Click OK.
-

When to contact technical support

When using the Server Performance Monitor window, you should consider contacting technical support in the following situations:

- if the CPU usage remains near 100 percent, which causes lost calls and slow system speed
You may need to upgrade to a more powerful system. The problem could also be limited memory, which causes more CPU activity spent paging memory to and from the disk.
If the CPU usage peaks to 100 percent occasionally, but generally remains below 80 percent, there is no need for concern. If the system peaks at 100 percent consistently, this is an indication that system limits are reached and a more powerful system is necessary.
- if the disk usage is consistently above 85 percent
More disk space or a cleanup of the current disk or database may be required.
- if memory usage is consistently near 100 percent
High memory usage causes much disk swapping and severely degrades system performance. More memory would solve this problem.

High memory usage could also be an indication that the system must be upgraded to a more powerful model.

This may also indicate a memory problem in the system. Check by restarting the system and looking at the performance monitor during an idle period.

Chapter 4

Performing hardware maintenance

In this chapter

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Overview

Introduction

This chapter explains how to expand the capabilities of your system and upgrade or replace hardware.

Section A, “Installing and replacing components,” describes procedures for handling and replacing chassis components on the 1001t Server.

Section B, “Replacing hard drives,” explains how to replace, configure, and format hard drives on the 1001t Server.

Section C, “Replacing server boards,” gives procedures for replacing the server boards in the 1001t Server.

Section D, “Replacing removable media drives,” gives procedures for installing and removing disk drives, CD-ROM drives, and tape drives.

Section E, “1001t optional cards,” describes the network cards approved for use in the 1001t Server, and gives procedures for the following tasks:

- slot assignments for optional cards
- installing and configuring network cards
- installing and configuring a Digi Communications card

Section F, “1001t RAID system with Mylex RAID card,” describes the 1001t RAID system, and the procedures for replacing and configuring its components.

Section G, “System Configuration Utility (SCU),” lists procedures that you should follow when configuring system hardware using the System Configuration Utility (SCU).

Section A: **Installing and replacing components**

In this section

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Overview of installing and replacing components

Introduction This section gives procedures for handling and replacing chassis components on the 1001t Server. For a list of chassis components, see “1001t Server configuration” on page 1-5.

Replacing components

Procedures covered include the following:

- removing and replacing covers
- removing and replacing the front panel board
- replacing hot-swappable components, such as the power supply
- removing and replacing a power share board
- removing and replacing a hot-swap SCSI backplane

Server covers

The server comes with five covers. Two spring-loaded screws secure the removable metal door behind the lower plastic front door to the chassis. This door provides airflow and access to the hot-swap drive bays for replacing hard drives. Both removable side covers are attached to the chassis with three screws. They provide airflow and access to the system board and power supplies. These covers can be secured to the chassis with padlocks.



Caution: Operating the server with the top, side, or front covers removed disrupts the airflow and affects long-term system reliability.

Removing a side cover

Purpose Access the system board and fans by removing the left side cover. The right side cover provides access to the power supplies, power-sharing board, 3.5 inch vertical drive bay, 5.25 inch horizontal peripheral bays, and hot-swap SCSI backplanes. The side covers are interchangeable.

Requirements Before removing either of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing a side cover

To remove a side cover, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause sever injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
4	Remove the three screws from the side cover and save them for reattaching the covers.

Step Action

5	Slide the cover backwards, about an inch, until it stops.
6	Pull the back end of the cover toward you to disengage its tabs from the slots in the chassis. Set the cover aside.
-

Replacing a side cover

Purpose To ensure proper airflow and cooling while your system is running, you should replace the side covers if you have removed them. The side covers are interchangeable, and may be installed on either side of the chassis.

Requirements Before replacing either of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing a side cover

To replace a side cover, follow these steps.

Step	Action

1	Check the chassis to ensure that you did not leave any tools or loose parts inside.
2	Ensure that add-in boards are firmly seated in their respective slots, retaining brackets are firmly secured with screws tightened to 6.0 inch pounds, and interior cables are properly connected.
3	Position the side cover over the chassis so that the metal tabs across the top and bottom edges of the cover align with the slots in the top cover and bottom edge of the chassis.

Step Action

- 4 Slide the cover toward the front of the server so that the tabs along the front edge of the cover firmly engage in the front slots of the chassis.



Caution: Do not damage the EMI gaskets mounted on the cover and chassis when you replace the side covers.

- 5 Attach the cover to the chassis with the three screws you removed earlier, and tighten them firmly.
- 6 Insert a padlock through the metal loop protruding through the slot in the back of the side cover and lock it.
- Note:** Adding a padlock to the server provides security and prevents unauthorized entry into the server system.
- 7 Connect all external cables and the power cord to the system.
-

Removing the top cover

Purpose To gain access to the front panel board you must remove the top cover. You must also remove both side covers before you can remove the top cover.

Requirements Before removing any of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing the top cover To remove the top cover, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
4	Remove both side covers and set them aside. Note: See "Removing a side cover" on page 4-5.
5	Remove the three screws from the top cover and set them aside.

Step Action

6	Lift up the back end of the top cover 15 degrees.
7	Using an even pull, slide the cover backwards until the tabs along the front of the cover disengage from the slots in the chassis.
8	Set the covers aside.
-

Replacing the top cover

Purpose To ensure proper airflow and cooling while the system is running, you must replace all system covers if you have removed them. Replace the top cover before you replace the side covers.

Requirements Before replacing any of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing the top cover To replace the top cover, follow these steps.

Step	Action

1	Check the chassis to ensure that you did not leave any tools or loose parts inside the chassis.
2	Ensure that the interior cables are properly connected.
3	Position the top cover over the chassis so that the tabs along the front of the cover align with the slots in the top edge of the chassis.
4	Slide the cover toward the front of the server so that the tabs firmly engage in the slots in the chassis.
5	Attach the cover to the chassis with the three screws you removed earlier, and tighten them firmly.
6	Replace both side covers. Connect all external cables and power cords to the system.
-

Removing the plastic front cover

Purpose To gain access to the front of the chassis and the 5.25 inch horizontal peripheral bays, you must remove the plastic front cover. You must remove both side covers and the top cover before you can remove the front cover.

Requirements Before removing any of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing the plastic front cover

To remove the front plastic cover, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.

Step Action

4	Remove both side covers and the top cover and set them aside. Note: See "Removing a side cover" on page 4-5, and "Removing the top cover" on page 4-9.
5	Remove the two screws from the front cover and replace them.
6	Unsnap the front cover from the server chassis, and place it on a smooth surface so that it will not become scratched.
-

Replacing the plastic front cover

Purpose To ensure proper airflow and cooling while the system is running, you must replace all system covers if you have removed them. Replace the plastic front cover before reinstalling the top and side covers.

Requirements Before replacing any of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing the plastic front cover

To replace the plastic front cover, follow these steps.

Step	Action

1	Insert the plastic T-shaped tabs on the bottom front cover into the T-shaped notches along the bottom of the chassis.
2	Press the cover onto the chassis until all tabs snap into place.
3	Attach the front cover to the chassis with the two screws you removed earlier, and tighten them firmly.
4	Replace the top cover and both side covers.
5	Connect all external cables and power cords to the system.

Removing the snap-in plastic peripheral bay cover

Purpose To gain access to the 5.25 inch horizontal peripheral bays without removing other covers, you can remove the snap-in plastic bay cover.

Requirements Before removing any of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing the peripheral bay cover

To remove the peripheral bay cover, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
4	Remove the right side cover (when viewed from the front of the server).

Note: See "Removing a side cover" on page 4-5.

Step Action

- 5 Push up on the bottom flexible tab below the 3.5 inch disk drive.
- 6 Push the tab toward the front of the server until you can grasp the lower right corner of the cover.



Caution: Do not try to remove the snap-in peripheral bay cover by inserting a screwdriver or other tool in the notch on the left side of the cover.

- 7 Pull the lower right corner of the cover toward you with an upward twisting motion to disengage the top flexible tab.
 - 8 Remove the snap-in peripheral bay cover from the system, and place it on a flat surface.
-

Replacing the snap-in plastic peripheral bay cover

Purpose Replace the peripheral bay cover once you have performed maintenance activities for the peripheral drive bays.

Requirements Before replacing any of the covers, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing the peripheral bay cover

To replace the peripheral bay cover, follow these steps.

Step	Action

1	Insert the rigid tabs on the plastic snap-in peripheral bay cover into the notches along the inside edge of the plastic front panel.
2	Push the top right corner of the cover toward the chassis with an inward twisting motion to insert the top flexible tab in the slot above the 3.5 inch disk drive.
3	Press the cover until both the top and bottom flexible tabs snap into place.
4	Replace the right side cover as described in "Removing a side cover" on page 4-5.
5	Connect all external cables and power cords to the system.

Removing the front panel board

Purpose To gain access to the system controls and indicators, remove the front panel board. Doing so allows you to replace the front panel board when an LED stops working. The front panel board is mounted on a snap-on standoff and a threaded standoff inside the chassis.

Requirements Before removing the chassis covers and the front panel board, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing the front panel board

To remove the front panel board, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.

Step	Action
4	Remove the side covers and the top covers as described in "Removing a side cover" on page 4-5, and "Removing the top cover" on page 4-9.
5	Remove the screw from the threaded standoff inside the chassis, and set it aside. Note: You will need the screw to install the new panel board.
6	Grasp the front panel board, and pull it toward the back of the server until it clears the snap-on standoff.
7	Label and disconnect all the cables connected to the front panel board.
8	Remove the board from the server, and place it on an antistatic foam pad or a grounded workstation.

Replacing the front panel board

Purpose After you have removed the faulty front panel board, you must install a new one. The front panel board contains the system controls and indicators.

Requirements Before removing the chassis covers and the front panel board, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap
- replacement front panel board



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing the front panel board

To remove the front panel board, follow these steps.

Step	Action

1	Place the front panel board on the chassis panel above the system board.
2	Reconnect the cables to the front panel board.
3	Position the front panel board over the snap-on and threaded standoffs inside the chassis.
4	Press the front panel board onto the snap-on standoff until it snaps in place.
5	Replace and tighten firmly the screw that secures the front panel board to the chassis.

Step Action

6	Replace the top cover and the side covers as described in "Replacing a side cover" on page 4-7, and "Replacing the top cover" on page 4-11.
-

Replacing hot-swappable components

Purpose	If your system experiences problems with either the hard drives or the power supplies, you can replace these parts without shutting down the server. These hot-swappable components enable you to leave the server on and operational while you replace redundant components.
System monitors	The chassis incorporates on-board management features that provide operator notification in case of a problem. Power supply and chassis temperature status are constantly monitored. In the event of a failure, explanatory information appears on the status display.
Hot-swappable components	The components that can be easily hot-swapped are • power supplies (see “Replacing a power supply” on page 4-24 for information and procedures) • SCSI hard drives (see “Replacing a SCSI SCA hard drive” on page 4-37 for information and procedures)
When to hot-swap the power supply	A green LED indicates that the power supply is working properly. If the yellow power supply failure LED flashes, you should replace the affected power supply.
When to hot-swap hard drives	The ten yellow LEDs located on the front panel indicate failure status for each drive in the associated drive bay. When a yellow LED is on continuously, you must replace the faulty drive with a good one. You do not need to shut down the server to replace a hot-swap drive.
Requirements	Before hot-swapping either a power supply or SCSI hard drive, gather the following tools: • one flat-blade screwdriver

- one Phillips-head screwdriver
- the replacement part, either
 - power supply
 - or
 - the replacement hard drive(s)

Replacing a power supply

Purpose Follow the procedure in this section to replace a hot-swap power supply.

Your server is configured with three 360 W power supplies. If a single power supply fails in a system with a power share board, the yellow power supply failure LED on the front panel begins to flash. A failed power supply can be replaced, or hot-swapped, while the server is running.

Requirements Before removing the power supply, gather the following tools:

- Phillips screwdriver (#2 bit)
- the replacement power supply

Replacing a power supply To replace a hot-swap power supply, follow these steps.

Step	Action
1	Remove the power cable attached to the power supply that you intend to remove.
2	Unscrew the four screws that fasten the power supply to the chassis. Note: Set the screws aside to use when you are replacing the power supply.
3	Grasp the two raised edges on either side of the power supply.
4	Pull the power supply away from the chassis and set it aside.
5	Remove the replacement power supply from its protective wrapping.
6	Fit the power supply into the opening left by the faulty power supply, and push it back until the front is flush to the chassis.

Step Action

7	Replace the four screws that fasten the power supply to the chassis.
8	Reattach the power cord to the power supply.
-

Removing the power share board

Purpose Follow the procedure in this section to remove the power share board.

The power share board distributes the power load in your server among the three power supplies, which makes the power supplies hot-swappable. When a power share board is faulty or damaged, power supplies are no longer hot-swappable.

The board is mounted on two snap-on standoffs and six threaded standoffs on the center wall inside the chassis.

Testing for a faulty power share board To test for a faulty power share board, you should run PC DIAGS. The results of the test will indicate whether the power share board or any other component is faulty.

For information about PC DIAGS, see “Running PC DIAGS” on page 2-5.



Danger: Hazardous voltage, current, and energy levels are present inside the power share board. There are no user serviceable parts inside it; servicing should only be done by technically qualified personnel.

The power button on the front panel of the server *does not* turn off the AC power. To remove AC power from the server, you must unplug the AC power cord from each power supply or wall outlet.

Requirements Before removing the power share board, gather the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing the power share board

To remove the power share board, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
4	Unplug the AC power cord from each power supply or wall outlet.
5	Remove the right side cover as described in "Removing a side cover" on page 4-5.
6	Label and disconnect the power and signal cables from the power share board.
7	Remove the power supplies.
8	Remove the screws that attach the board to the threaded standoffs in the inside chassis wall, and set them aside.
9	Pull the board toward you to unsnap it from the snap-on standoffs.
10	Remove the board from the server, and set it aside.
-

Replacing the power share board

Purpose After you have removed the faulty power share board, you must install a new one. To determine if your power share board is faulty, refer to “Testing for a faulty power share board” on page 4-26.

Requirements Before replacing the power share board, gather the following tools:

- Phillips screwdriver (#2 bit)
- replacement power share board
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing the power share board

To replace the power share board, follow these steps.

Step	Action

1	Position the mounting holes in the power share board over the snap-in standoffs and threaded standoffs on the inside chassis wall.
2	Push the board toward the chassis wall until it snaps onto the snap-in standoffs.
3	Insert the screws through the mounting holes in the board and into the threaded standoffs on the inside chassis wall.
4	Tighten the screws firmly.
5	Replace the power supplies.
6	Connect the power and signal cables to the power share board.
7	Replace the side cover as described in “Replacing a side cover” on page 4-7.

Removing a hot-swap SCSI backplane

Purpose Follow the procedure in this section to remove a hot-swap SCSI backplane. The server may be configured with one or two SCSI hot-swap SCSI backplanes, which provide control signals and power for five wide/fast 3.5 inch hard drives. The signals and power are sent to the drives from the SCA connectors on the backplane.

Drive fault indicators Fault indicators on the front panel indicate failure status for each drive in the bay. These indicators get their signals through a cable connected to the front panel connector on the backplane.

When a failure is detected and reported to the SCSI bus, the backplane power control powers down the faulty drive. When a new drive is inserted, the power control waits for the drive to be fully seated, and then applies power to the drive.

Requirements Before removing the hot-swap SCSI backplane, gather the following tools:

- Phillips screwdriver (#2 bit)
- replacement hot-swap backplane
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Removing a hot-swap SCSI backplane

To remove the hot-swap SCSI backplane, follow these steps.

Step	Action

1	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

2	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
3	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
4	Remove the right side cover, as described in "Removing a side cover" on page 4-5.
5	Label and disconnect the power and signal cable connectors from the hot-swap SCSI backplane. If your system has one, disconnect the auxiliary fan connector.
6	Remove the hard drives. Label these and set them aside.
7	Remove the four screws that attach the backplane to the back of the drive bay, and set them aside.
8	Remove the backplane from the server, and place it on an antistatic surface.

Replacing a hot-swap SCSI backplane

Purpose Follow the procedure in this section to replace a hot-swap SCSI backplane.

Requirements Before replacing the hot-swap SCSI backplane, gather the following tools:

- Phillips screwdriver (#2 bit)
- replacement hot-swap SCSI backplane
- antistatic wrist strap



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing a hot-swap SCSI backplane

To replace the hot-swap SCSI backplane, follow these steps.

Step	Action

1	Remove the new backplane from its packaging.
2	Slide the hot-swap SCSI backplane into the notches in the metal tabs on the back of the bay.
3	Position the screw holes in the backplane over the nuts on the back of the bay.
4	While holding the backplane in place, insert the four screws through the holes in the backplane and into the nuts.
5	Tighten the screws firmly.
6	Connect the power and signal cables to the hot-swap SCSI backplane.

Step Action

7	Install the hard drives in the drive bay. See "Installing a hard drive in a drive bay" on page 4-36. Note: Ensure that you install the drives in the same places from where you removed them.
8	Replace the right side cover, as described in "Replacing a side cover" on page 4-7.
-

***Section B:* Replacing hard drives**

In this section

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Overview of replacing hard drives

Introduction

This section explains how to replace, configure, and format hard drives on the 1001t Server.

Replacing components

This section contains the following procedures:

- mounting a hard drive in a drive carrier
- installing a hard drive in a drive bay
- replacing a SCSI SCA hard drive
- configuring the system for drive capacity
- configuring a hard drive
- cabling a hard drive
- formatting a hard drive

Mounting a hard drive in a disk carrier

Purpose Follow the procedure in this section to mount a SCSI SCA hard drive in a disk carrier. Disk drive carriers are attached to the drives and fit into the drive bay. These carriers enable you to hot-swap the drives without shutting down the system.

Requirements To mount a hard drive in a disk carrier, you require the following:

- Phillips cross-head screwdriver (bits #1 and #2)
- four Phillips cross-head screws, 1 to 1.5 inch long
- antistatic wrist strap (recommended)
- a 3.5 inch hard drive
- plastic drive carrier



Warning: Handle hard drives with extreme caution as they are very easily damaged. For more information, see “Handling hard drives” on page 1-19.

Mounting a SCSI SCA hard drive in a plastic carrier

To attach the hard drive to the plastic carrier, follow these steps.

Step	Action

1	Remove the 3.5 inch hard drive from its protective wrapper, and place it on an antistatic surface.
2	Record the drive model and serial number.
3	Orient the drive so the connector is near the top surface of the drive, and place it on an antistatic surface.
4	Place the plastic carrier on top of the drive.
5	Attach the carrier to the drive using the four screws.
-

Installing a hard drive in a drive bay

Purpose After you have mounted the hard drive on the plastic carrier, you must insert the drive and carrier into the drive bay. Follow the procedure in this section to do so.

Requirements To install the hard drive into the drive bay, you need a 3.5 inch hard drive mounted on a plastic carrier.

For the procedure to attach the hard drive and the carrier, see “Replacing hard drives” on page 4-33.

Installing a hard drive in a drive bay To install a hard drive, follow these steps.

Step	Action
1	Open the plastic front door.
2	If you installed a padlock on the metal door to the drive bays, unlock the padlock and remove it.
3	Loosen the two spring-loaded, captive screws that secure the metal door to the chassis, and open the door.
4	Position the plastic carrier, locking tab, and drive assembly so that they engage the drive bay guide rails.
5	Gently push the drive into the bay until it docks with the backplane connector and snaps into place.
6	Gently close the metal door, and secure it to the chassis with the two captive screws.
7	For security and to prevent unauthorized access to the bays, insert a padlock through the metal door and chassis, and lock it.
8	Close the lower plastic front door.

Replacing a SCSI SCA hard drive

Purpose	A bank of ten yellow LEDs on the front panel monitors the drive status of each drive in the upper and lower drive bays. When a yellow LED is on continuously, it is safe to replace a bad drive with a good one.
Requirements	To replace the hard drive, you require a new disk drive mounted on a plastic carrier.
Drive jumpers	Before you install the hard drive, set the drive jumpers to zero. A map attached to the hard drive illustrates which drive jumpers to set.
Replacing a SCSI SCA hard drive	To replace a SCSI hard drive, follow these steps.

Step	Action

1	Open the plastic front door of the system.
2	If you installed a padlock on the metal door to the bays, unlock the padlock and remove it.
3	Loosen the two captive, spring-loaded screws that secure the metal door to the chassis, and open the door.
4	Check the two banks of yellow LEDs on the front panel to determine which drive is faulty.
5	Grasp the plastic drive carrier and pull it toward you to disengage the drive connector from the backplane connector.
6	Squeeze the tabs on the carrier toward each other, and slide the bad drive forward out of the bay. Place the drive on an antistatic surface.
7	Position the new plastic carrier and drive assembly so that they engage the bay guide rails.

Step Action

8	Gently push the drive into the bay until it docks with the backplane connector and snaps into place.
9	Gently close the metal door, and secure it to the chassis with the two captive, spring-loaded screws.
10	For security and to prevent unauthorized access to the bays, insert a padlock through the metal loop protruding through the door and lock it.
11	Close the lower plastic front door of the system.
-

What's next?

After you have replaced a dead drive, the replacement drive must be set to the same SCSI ID number as the dead drive.

Setting SCSI IDs

To set SCSI IDs, follow these steps.

Step Action

1	Set SCSI IDs to 0. Disable Termination. Note: On Seagate drives, termination is usually disabled by removing both the "TERM ENABLE" and "TP FROM DRIVE" jumpers. For other types of drives, the jumpers are labeled similarly.
2	Check that the SCSI ID of the tape drive is set to 2.
3	Ensure that Parity Checking is enabled on tape and disks.
4	Check that the tape drive is configured to enable termination for its SCSI channel. Note: A narrow to wide connector is required to connect the narrow bus to a wide tape drive.
-

What's next?

Once you have set the SCSI IDs, you should configure the system for specific drive capacities and rebuild the drive.

Rebuilding a drive To set the SCSI ID number of the replacement drive to be the same as that of the dead drive, follow these steps.

Step	Action

1	From the Windows Start menu, choose Run.
2	Type dacadm in the command line prompt in the Run window.
3	Click on Rebuild Drive. Result: A screen provides information about the drives connected to the selected DAC960 controller.
4	Move the cursor to a dead drive box.
5	Click on the Dead Drive button. Result: The utility begins to rebuild the drive. The progress of the rebuild for every dependent system drive is displayed in another window. When the rebuild is complete, the status of the drive is changed to Online (ONL).
6	Click OK to exit the screen.

Configuring hard drives

Purpose You can replace any of the SCSI hot-swappable hard drives from the drive bay if they should fail, or if you want to upgrade. Once you have replaced hard drives, you must also configure them.

RAID SCSI hard drive configuration The following table indicates proper SCSI drive bay, channel, and ID configurations in the hot-swap drive bay. SCSI IDs are set by the SCSI backplane.

RAID channel	SCSI ID assignment	Device	Comments
Channel A	ID 0	First disk	Should always be located in the top left-most bay of hot-docking area, with drive jumper set to SCSI ID zero.
Channel A	ID 1	Second disk	Set drive jumper setting to SCSI ID zero.
Channel A	ID 10	Third disk	Set drive jumper setting to SCSI ID zero.
Channel A	ID 3	Fourth disk	Set drive jumper setting to SCSI ID zero.
Channel A	ID 4	Fifth disk	Set drive jumper setting to SCSI ID zero.
Narrow Channel	ID 2	Tape drive	Set SCSI ID 2, Parity Enabled, Termination Enabled.
Channel A	ID 7	SCSI controller	PCI controller
Channel B	ID 0	First disk	Should always be located in the bottom left-most bay of hot-docking area, with drive jumper set to SCSI ID zero.
Channel B	ID 1	Second disk	Set drive jumper setting to SCSI ID zero.
Channel B	ID 10	Third disk	Set drive jumper setting to SCSI ID zero.
Channel B	ID 3	Fourth disk	Set drive jumper setting to SCSI ID zero.

RAID channel	SCSI ID assignment	Device	Comments
Channel B	ID 4	Fifth disk	Set drive jumper setting to SCSI ID zero.
Channel B	ID 7	SCSI controller	PCI controller

Configuring the system for drive capacity

Purpose Follow the procedure in this section to configure the system for drive capacity.

Hard drive location The 1001t Server comes in two mass-storage configurations, RAID and non-RAID.

Non-RAID system

In a non-RAID system, only the top or primary hot-swap hard drive bay is installed. This limits you to one SCSI channel, and a maximum of five hard drives (A-0 to E-0). A second backplane can be provisioned to increase storage capacities.

RAID system

In a RAID system, both hot-swap backplanes exist. This provides two wide SCSI channels, with up to 10 hard drives. Refer to the following table for SCSI channel and ID information.

SCSI channel and ID information The following table provides SCSI channel and ID information.

SCSI Unit	SCSI ID
Hard drive 1 (A-0)	Channel A, ID 0
Hard drive 2 (A-1)	Channel B, ID 0
Hard drive 3 (B-0)	Channel A, ID 1
Hard drive 4 (B-1)	Channel B, ID 1
Hard drive 5 (C-0)	Channel A, ID 10
Hard drive 6 (C-1)	Channel B, ID 10
Hard drive 7 (D-0)	Channel A, ID 3

SCSI Unit	SCSI ID
Hard drive 8 (D-1)	Channel B, ID 3
Hard drive 9 (E-0)	Channel A, ID 4
Hard drive 10 (E-1)	Channel B, ID 4
Tape Drive	Narrow channel, ID 2
EIDE CD-ROM	Narrow channel, ID 6

Configuring the system for drive capacity

To configure a system for a specific hard drive capacity, follow these steps.

Step	Action

1	Use the Hard drive location table to determine the appropriate drive bay for installation.
2	Configure the hard drive to have no termination.
3	The SCSI backplane handles proper termination of the SCSI bus. Note: In a Non-RAID configuration, drives A-0 and B-0 are installed as a minimum. System packs C, D, and E can also be installed. In a RAID configuration, drives A-0, A-1, B-0, and B-1 are installed as a minimum. System packs C, D, and E can also be installed.

What's next?

Once you have configured the capacity of your drives, you should configure the drives as part of a RAID system if you have installed a RAID card, or as part of a Non-RAID system without the RAID card.

Hard drive settings

Purpose

Configure the drives in your system as described in the table below, and install them into the internal drive bay, according to the hard drive locations listed in the table “Hard drive location” on page 4-45.

System Pack	Physical Drive Size	System Pack Size	Usable System Pack Size	SCSI Channel and ID	Drive Label in Pack
A	2 Gbyte	4 Gbyte	2 Gbyte	Channel 0, ID 0	A-0
	2 Gbyte			Channel 1, ID 0	A-1
B	4 Gbyte	8 Gbyte	4 Gbyte	Channel 0, ID 1	B-0
	4 Gbyte			Channel 1, ID 1	B-1
C	4 Gbyte	8 Gbyte	4 Gbyte	Channel 0, ID 10	C-0
	4 Gbyte			Channel 1, ID 10	C-1
D	4 Gbyte	8 Gbyte	4 Gbyte	Channel 0, ID 3	D-0
	4 Gbyte			Channel 1, ID 3	D-1
E	4 Gbyte	8 Gbyte	4 Gbyte	Channel 0, ID 4	E-0
	4 Gbyte			Channel 1, ID 4	E-1

Hard drive location The 1001t Server uses wide SCSI disk drives that may be configured in either a RAID or a non-RAID system. Refer to the table below for the drive locations.

RAID	Non-RAID
A0 — Top left	A0 — Top left
B0 — Top, second from left	B0 — Top, second from left
C0 — Top, third from left	C0 — Top, third from left
D0 — Top, fourth from left	D0 — Top, fourth from left
E0 — Top right	E0 — Top right
A1 — Bottom left	
B1 — Bottom, second from left	
C1 — Bottom, third from left	
D1 — Bottom, fourth from left	
E1 — Bottom right	

Configuring hard drives

Introduction

The configuration of your hard drive depends on whether your system has a RAID card. If the system is non-RAID, there should be no Mylex RAID card installed. For a non-RAID system, only one hot-swap hard drive bay should be installed and connected to the Wide SCSI Channel A.

Configuring hard drives in a non-RAID system

Drives controlled by the on-board SCSI are configured using disk partitioning and formatting utilities in MS-DOS 6.20 and Windows NT.

Configuring hard drives in a RAID system

1001t Servers require a Mylex RAID card to have RAID functionality. For information about configuring hard drives in a RAID system, refer to “Configuring the RAID system” on page 4-107.

Cabling hard drives

Purpose

Your system can be cabled in two different configurations, depending on whether the system includes a RAID card. The possibilities are listed below:

- non-RAID cabling
- RAID with a DAC960 PL card

Cabling drives in a non-RAID system

To cable a non-RAID system, follow these steps.

Step	Action

1	Route the cable from the on-board wide SCSI Bus 0, channel A to the primary SCSI backplane (top).
2	Route the cable from the narrow SCSI Bus to the installed tape drive.

Cabling drives in a RAID system with DAC960 PL

To cable a RAID system with DAC960 PL for hard drives, follow these steps.

Step	Action

1	Route the cable from channel 0 to the DAC960 PL, and then to the primary SCSI backplane.
2	Route the cable from channel 1 to the DAC960 PL, and then to the secondary SCSI backplane.

Formatting hard drives

Purpose The following general procedure may be used to format any hard drive on the 1001t Server.

Formatting hard drives To format hard drives on the server, follow these steps.

Step	Action
1	Start the server and launch Windows NT.
2	Log on to the system as Administrator.
3	Start the Disk Administrator from the Administrative Tools program group.
4	When prompted to write a signature to hard drives that require it, select Yes.
5	For each unpartitioned drive in the system, create a Primary Partition the size of the drive, and format it using the NTFS file system.

***Section C:* Replacing server boards**

In this section

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Overview of replacing server boards

Introduction

This section gives procedures for replacing the system boards in the 1001t Server. The server system board supports two processor modules, a memory module, and a Mylex RAID card module.

Procedures included

Procedures covered include the following:

- upgrading and configuring the BIOS
- replacing the backup battery
- removing and installing the Pentium II processors
- removing and installing memory modules and boards



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap while performing the procedures in this section.

Upgrading the BIOS

Purpose Follow the procedure in this section to upgrade the BIOS. BIOS (Basic Input Output System) is Flash ROM-based code in the system. The system is equipped with Flash BIOS which enables you to upgrade by running a single program that writes updated code to the Flash ROM chips.

Version number For the 1001t Server, the Intel BIOS release number must be 3.00 or higher. You must upgrade the BIOS if you have an older version. Contact an authorized Nortel representative to request a BIOS upgrade disk.

Requirements To upgrade the BIOS, you need a bootable upgrade disk, version 3.00 or higher.

Upgrading the BIOS To upgrade the BIOS, follow these steps.

Step	Action

1	Turn off the server.
2	Insert the BIOS upgrade floppy in the floppy drive and power on the system. The server displays the following message:

Step Action

```
*****
* Welcome to the BIOS update procedure. Select one of the
* two options listed below.
*
* 1) To update your system BIOS, Type: 1 [Enter]
* This is a non-interactive update and takes about 1
* minute.
* The system will then automatically reboot to complete
* the BIOS update procedure.
* 2) To update user binary files or upgrade foreign language
* files,
* Type: 2 [Enter]
*
* This is an interactive update
*
A:\>
```

- 3 Type 1 to complete a non-interactive BIOS upgrade.
Result: The BIOS is flash upgraded. A prompt will display when the upgrade is complete.
- 4 Power off the system and remove the BIOS upgrade floppy from the floppy drive.
-

What's next

Configure the BIOS.

Configuring the BIOS

Purpose Follow the procedure in this section to configure the BIOS. BIOS (Basic Input Output System) is Flash ROM-based code in the system. The system is equipped with Flash BIOS which enables you to upgrade by running a single program that writes updated code to the Flash ROM chips.

When to configure the BIOS BIOS configuration is necessary for first-time setup. You should reconfigure the BIOS if you

- replace the lithium battery on the system board
- upgrade the BIOS

Configuring the BIOS To configure the BIOS, follow these steps.

Step	Action

1	Set the jumper J1J2 CPU Speed to Enable. Result:
2	Power on the system. Result: The system prompts you to press F2 to enter CMOS setup.
3	Press F2. Result: The CMOS Setup screen appears.
4	Use the arrow keys to select Main.
5	Under the heading Primary IDE Master, set the option to Auto. Result: Setting the IDE Master to Auto ensures that the CD-ROM is functioning in the system.
6	Under the heading CPU Speed, press Enter and select the installed processor speed.
7	Power down the server.

Step	Action
8	After the CPU Speed is set, reset the jumper the PROT position.
9	Power on the server. Result: The system prompts you to press F2 to enter CMOS setup.
10	Press F2. Result: The CMOS Setup screen appears.
11	Use the arrow keys to move the top menu level to Advanced.
12	Under the Plug & Play OS heading, ensure the option is disabled. Result: MS-DOS and Windows NT are not Plug & Play compatible.
13	Under the Use Multiprocessor Specs heading, ensure the settings are as follows: • 1.1 for one processor • 1.4 for two processors in the system
14	Under the I/O Processor heading, ensure that the option is disabled for a system with no RAID, or when a Mylex PCI RAID card is installed.
15	Use the arrow keys to move the top menu level to Server.
16	Under the Console Redirection heading, ensure the COM port address is Disabled. Note: The option is enabled later once the system setup and configuration are completed.
17	Use the arrow keys to move the top menu level to Exit.
18	Select Save Changes & Exit once you have finished configuring the BIOS.

Replacing the backup battery

Purpose

Follow the procedure in this section to replace the backup battery. The lithium battery on the system board powers the real-time clock (RTC) for up to five years in the absence of power.

The RTC contains 256 bytes of general purpose RAM that stores the system BIOS configuration information, clock registers, and general purpose control registers. This retained information assists BIOS in performing initialization and configuration during power-up or reset operations. The battery is built into the real-time clock unit, and may need to be replaced if configuration or clock inconsistencies occur.

Contact your Nortel sales representative for approved replacement devices and available service.

Requirements

Before removing the chassis covers and the battery, you should have the following tools:

- Phillips screwdriver (#2 bit)
- antistatic wrist strap
- replacement lithium battery



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap.

Replacing the backup battery

To replace the backup battery, follow these steps.

Step	Action
1	Shut down the operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove the left side cover. Note: See "Removing a side cover" on page 4-5.
6	Insert the tip of a small flat-bladed screw driver, or equivalent object, under the plastic tab on the snap-on plastic retainer.
7	Lift up and pull back on the retainer to remove it from the lithium battery socket.
8	Remove the lithium battery from its socket. After you have completed this procedure, dispose of the lithium battery according to the dangerous waste regulations for your region.
9	Remove the new lithium battery from its package.
10	Match the polarities of the battery, and insert the battery into the socket.
11	Install the snap-on plastic retainer on the lithium battery socket.
12	Replace the left side cover. Note: See "Replacing a side cover" on page 4-7.
13	Run the SCU to restore the configuration settings to the RTC. Note: For more information about running SCU, see "System Configuration Utility (SCU)" on page 4-113



Upgrading from single to dual processors

Purpose

If you are upgrading a single-processor system to a dual-processor system, you must install a voltage regulator and remove the termination board from the CPU1 slot.



Caution: The Pentium II processor can be extremely sensitive to ESD and always require careful handling. After removing the module from its protective wrapper or from the system board, place it with the heat sink side down on a nonconductive, static-free surface. Do not slide the module over any surface.

Requirement

To perform this procedure, you need an antistatic wrist strap.

Removing the termination board

To remove the termination board, follow these steps.

Step	Action
1	Shut down the Windows NT operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove the left side cover.
6	Grasp the board by its top edge or upper corners.
7	Rock the board back and forth until the edge connectors pull free.



Installing the voltage regulator module

To install the voltage regulator module, follow these steps.

Step	Action

1	Shut down the Windows NT operating system.
2	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove the left side cover.
6	Remove the regulator module from its protective wrapper and place it heat sink side down on a nonconductive, static-free surface. Note: Do not touch the components or gold edge connectors on the regulator module.
7	Record the module's serial number in your equipment log.
8	Hold the module by its top edge or upper corners, and firmly press it into the connector on the system board until the lock tabs click into place.

Removing a Pentium II processor

Purpose To replace or upgrade your processor, you need to remove the faulty or obsolete processor.



Caution: The Pentium II processor can be extremely sensitive to ESD and always require careful handling. After removing the module from its protective wrapper or from the system board, place it with the heat sink side down on a nonconductive, static-free surface. Do not slide the module over any surface.

Requirement To perform this procedure, you need an antistatic wrist strap.

Removing a Pentium II processor To remove a processor, follow these steps.

Step	Action
1	Shut down the Windows NT operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove the left side cover.
6	Squeeze the locking tabs and pull the processor free from the connector.



Step Action

7	Store the module in an antistatic protective wrapper, or place it processor-side up on a nonconductive, static-free surface.
-

Installing a Pentium II processor

Purpose To replace or upgrade your processor, you need to add a new processor.



Caution: The Pentium II processor can be extremely sensitive to ESD and always requires careful handling. After removing the module from its protective wrapper or from the system board, place it with the heat sink side down on a nonconductive, static-free surface. Do not slide the module over any surface.

Requirement To perform this procedure, you need an antistatic wrist strap.

Installing a Pentium II processor To install a processor, follow these steps.

Step	Action

1	Remove the left side cover.
2	Remove the processor from its protective wrapper and place it heat sink side down on a nonconductive, static-free surface. Note: Do not touch the components or gold edge connectors on the processor module.
3	Record the module's serial number.
4	Hold the module by its top edge or upper corners, and firmly press it into the connector on the system board. Note: Ensure the locking tabs are engaged in the support bracket.
5	Replace the left side cover.
6	Run the SCU to configure the system. For more information, see "System Configuration Utility (SCU)" on page 4-113.
-

Removing the memory board

Purpose

The memory board must be replaced if a connector is faulty. Run PC DIAGS to determine if the memory board is faulty and needs to be replaced. The memory board contains four DIMM sockets for installing memory. It supports from 32 Mbytes to 512 Mbytes of SDRAM, mounted on DIMM sockets.

Requirements

To remove the memory board, you require the following tools:

- Phillips screwdriver (#2 bit)
- pen or pencil and cable labels
- an antistatic wrist strap

Removing the memory board

To remove the memory board, follow these steps.

Step	Action
1	Shut down the Windows NT operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove the left side cover.
6	Remove the rail.
7	Hold the memory board by its top edge or upper corners.



Step Action

8	Rock the board back and forth until the edge connector pulls free.
9	Store the board in an antistatic protective wrapper, or place it socket-side up on a nonconductive, static-free surface.
10	Reinstall the rail.
-

Installing the memory board

Purpose You must install a new memory board after removing the faulty one. Refer to “Removing the memory board” on page 4-62 for details about when to remove the module, and for the procedure.

Requirements To install the memory board, you require the following:

- antistatic wrist strap
- new memory board

Installing the memory board To install the memory board, follow these steps.

Step	Action
1	Remove the memory board from its protective wrapper and place it socket side up on a nonconductive, static-free surface. Note: Do not touch the components or gold-edges on the memory board.
2	Record the serial number on the board.
3	Remove the rail and set it aside.
4	Hold the board by its top edge or upper corners, and firmly press it into the connector on the system board. Note: DIMM slots are located on the top of the board.
5	Install the rail.
6	Run the SCU to configure the system. For more information, see “System Configuration Utility (SCU)” on page 4-113.

Removing memory modules

Purpose Memory modules are installed on the memory board. The board contains four DIMM sockets for installing memory. Mixed sizes and types of DIMMs can be installed in the four memory banks; however, their speeds must be the same.



Caution: Use extreme care when removing a DIMM. Too much pressure can damage the socket slot. Apply only enough pressure on the plastic ejector levers to release the DIMM.

Requirement To perform this procedure, you need an antistatic wrist strap.

Removing the memory modules To remove memory DIMMs, follow these steps.

Step	Action

1	Remove the memory board from the server. Note: Refer to "Removing the memory board" on page 4-62 for the procedure.
2	Gently push the plastic ejector levers out and down to eject a DIMM from its socket.
3	Hold the DIMM only by its edges, being careful not to touch its components or gold edge connectors. Carefully lift it away from the socket, and store it in an antistatic package.
4	Repeat to remove other DIMMs as necessary.
5	Run the SCU to configure the system. For more information, see "System Configuration Utility (SCU)" on page 4-113.
-

Installing the memory modules

Purpose

You can install memory modules to replace faulty ones, or to increase the memory resources available on your system. Memory modules are installed on the memory board. The board contains four DIMM sockets for installing memory. Mixed sizes and types of DIMMs can be installed in the four memory banks; however, their speeds must be the same.

DIMM sizes and compatibility

Contact your Nortel sales representative or service technician for approved DIMMs for the platform you are using.



Caution: Use extreme care when installing a DIMM. Too much pressure can damage the socket. DIMMs are keyed and can be inserted in only one way.

Requirement

To perform this procedure, you need an antistatic wrist strap.

Installing the memory modules

To install DIMMs, follow these steps.

Step	Action

1	Holding the DIMM only by its edges, remove it from its antistatic package.
2	Orient the DIMM so that the two notches in the bottom edge of the DIMM align with the keyed socket.
3	Insert the bottom edge of the DIMM into the socket, and press down firmly on the DIMM until it seats correctly. Note: When the DIMM seats correctly, the plastic ejector levers lock back to an upright position. Do not push the plastic ejector levers—if they are not in an upright position, the DIMM is not seated correctly.
4	Repeat the steps to install each DIMM.

Step Action

5	Run the SCU to configure the system. For more information, see "System Configuration Utility (SCU)" on page 4-113.
-

***Section D:* Replacing removable media drives**

In this section

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Overview of replacing media drives

Introduction

The media devices contained in the 1001t Server include CD-ROM, and tape and floppy drives. In the event that your media drives should become damaged, or you want to upgrade, you can replace these drives. This section provides procedures for replacing or upgrading any device in the drive bay.

Procedures

The procedures discussed in this section include the following:

- installing and removing disk drives
- installing and removing CD-ROM drives
- installing and removing tape drives



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap while performing the procedures in this section.

Removing a disk drive

Purpose If the disk drive is damaged or faulty, you should remove it and install a new drive. Contact your Nortel sales representative or dealer for an approved add-in peripheral device.

Requirements To remove a disk drive, you require the following:

- a Phillips screwdriver (#2 bit)
- an antistatic wrist strap

Removing a disk drive To remove a disk drive, follow these steps.

Step	Action
1	Shut down the operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove the right side cover.
6	Disconnect the power and signal cables from the disk drive.
7	Remove the screw that secures the drive and carrier assembly to the chassis, and set it aside.
8	Slide the assembly toward the top power supply to disengage the tabs from the slots in the chassis wall.



Step Action

9	Remove the assembly from the chassis, and place it component-side up on an antistatic surface.
10	Remove the three screws and set them and the drive carrier aside.
11	Place the drive in an antistatic protective wrapper.
12	Replace the right side cover.
-

Installing a disk drive

Purpose If the disk drive is damaged or faulty, you should remove it and install a new drive. Contact your Nortel sales representative or dealer for an approved add-in peripheral device.

Requirements To install a disk drive, you require the following:

- a Phillips screwdriver (#2 bit)
- three Phillips screws to attach the drive carrier
- an antistatic wrist strap
- the replacement disk drive

Installing a disk drive To install a disk drive, follow these steps.

Step	Action

1	Remove the 3.5 inch disk drive from its protective wrapper, and place it component-side up on an antistatic surface.
2	Record the drive's model and serial number in your equipment log.
3	Set any jumpers or switches according to the drive manufacturer's instructions.
4	Place the drive carrier on the component side of the drive, and align the four mounting holes.
5	Attach the carrier to the drive with three screws, and tighten the screws firmly.
6	Position the drive and carrier assembly over the slots in the chassis wall, and slide the assembly toward the front of the system to engage the tabs in the slots.
7	Secure the drive and carrier assembly to the chassis wall with the screw you removed earlier. Tighten the screw firmly.

Step Action

8	Connect the signal and power cables to the disk drive. Note: The red stripe on the signal cable must face toward the center of the drive.
9	Replace the right side cover.
10	Run the SCU to specify that the disk drive is installed in the server.
-

Removing a CD-ROM drive

Purpose If the CD-ROM drive is damaged or faulty, you should remove it and install a new drive. Contact your Nortel sales representative or dealer for an approved add-in peripheral device.

Requirements To remove a CD-ROM drive, you require the following:

- a Phillips screwdriver (#2 bit)
- an antistatic wrist strap

Removing a CD-ROM drive To remove a CD-ROM drive, follow these steps.

Step	Action
1	Shut down the operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove both side covers and the top cover, and set them aside.
6	Remove the snap-in plastic peripheral bay cover, and place it on a smooth surface so that it will not become scratched.
7	Disconnect the power cable and the signal cable from the drive.



Step	Action
8	While squeezing the protruding plastic snap-in rails attached to the drive toward each other, slide the drive forward out of the bay. Place the drive on an antistatic surface.
9	Remove and save the four screws and the two snap-in slide rails from the drive.
10	If you leave the bay empty, install a filler panel on the snap-in plastic peripheral bay cover, and a stainless steel EMI shield on the bay for proper cooling and airflow.
11	Replace the snap-in plastic peripheral bay cover, the top cover, and both side covers.

Installing a CD-ROM drive

Purpose If the CD-ROM drive is damaged or faulty, you should remove it and install a new drive. Contact your Nortel sales representative or dealer for an approved add-in peripheral device.

Requirements To install a CD-ROM drive, you require the following:

- a Phillips screwdriver (#2 bit)
- two screws to attach the slide rails to the drive
- an antistatic wrist strap
- the replacement CD-ROM drive

Installing a CD-ROM drive

To install a CD-ROM drive, follow these steps.

Step	Action

1	Shut down the operating system.
2	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove both side covers and the top cover.

Note: If you are installing an additional CD-ROM drive in your server, continue with step 6. If not, go to step 9.

Step	Action
6	Remove the snap-in plastic peripheral bay cover, and place it on a smooth surface so that it will not become scratched.
7	Remove the screws and filler panel, and set them aside.
8	Push the tab on the left side of the EMI metal shield to the right to disengage it from the chassis. Save the shield.
9	Remove the CD-ROM drive from its packaging and place it on an antistatic surface.
10	Record the CD-ROM drive's model and serial numbers.
11	Set any jumpers or switches, or both, on the CD-ROM drive according to the manufacturer's instructions.
12	Use two screws to attach each plastic slide rail to the CD-ROM drive. Note: The screws are not supplied.
13	Position the CD-ROM drive so that the plastic slide rails engage in the bay guide rails.
14	Push the drive into the bay until the slide rails lock in place.
15	Connect the signal cable and the power cable to the CD-ROM drive.
16	Replace the snap-in plastic peripheral bay cover, the top cover, and both side covers.
17	This is an optional step if you installed a SCSI CD-ROM drive. Run the Symbios SCSI utility to enable BIOS support for a bootable CD-ROM.
18	Run the SCU or setup to specify that the CD-ROM is the boot device.

Installing a tape drive

Purpose

Installing a tape drive allows you to perform regularly scheduled backups of your system and data. The two 5.25 inch half-height bays below the CD-ROM drive on the 1001t Server provide space for tape backup or other removable media devices.

Contact your Nortel sales representative or dealer for an approved add-in peripheral device.



Caution: Nortel does not recommend mounting a hard drive in a 5.25 inch bay because the drive generates EMI, is susceptible to ESD increases, and may not cool adequately.

Requirements

To install a tape drive, you require the following:

- a Phillips screwdriver (#2 bit)
- two screws to attach the plastic rails to the device
- tape drive to install
- an antistatic wrist strap

Installing a tape drive

To install a tape drive, follow these steps.

Step	Action

1	Shut down the operating system.
2	Turn off all peripheral devices connected to the server.



Danger: High current inside the chassis can cause severe injury.

Step	Action
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove both side covers and the top cover, and set them aside.
6	Remove the snap-in plastic peripheral bay cover, and place it on a smooth surface so that it will not become scratched.
7	Remove the screws and filler panels, and set them aside.
8	Push the tab on the left side of the EMI metal shield to the right to disengage it from the chassis. Save the shield.
9	Remove the device from its packaging, and place it on an antistatic surface.
10	Record the device's model and serial number.
11	Set any jumpers or switches, or both, on the device according to either the manufacturer's instructions or, if you are replacing an old or damaged device, according to the settings on the device you are replacing.
12	Use two screws to attach each plastic slide rail to the device.
13	Position the device so that the plastic slide rails on each side of it engage in the bay guide rails.
14	Push the device into the bay until the slide rails lock in place.
15	Replace the snap-in plastic peripheral bay cover, top cover and both side covers.
16	This is an optional step if you installed a SCSI CD-ROM drive. Run the Symbios SCSI utility to enable BIOS support for a bootable CD-ROM.
17	Run the SCU or setup to specify that the CD-ROM is the boot device.

Removing a tape drive

Purpose You must remove a tape drive to upgrade or replace a faulty device, or change the type of removable media installed.

Requirements To remove a tape drive, you require the following:

- a Phillips screwdriver (#2 bit)
- an antistatic wrist strap

Removing a tape drive To remove a tape drive, follow these steps.

Step	Action
1	Shut down the operating system.
2	Turn off all peripheral devices connected to the server.
	Danger: High current inside the chassis can cause severe injury.
3	Turn off the server using the power button on the front panel, and unplug the alternating current (AC) power cord from each power supply.
4	Label and disconnect all peripheral cables attached to the I/O panel on the back of the server.
5	Remove both side covers and the top cover.
6	Remove the snap-in plastic peripheral bay cover, and place it on a smooth surface so that it will not become scratched.
7	Disconnect the power cable and the signal cable from the drive.
8	Squeeze the protruding plastic snap-in rails attached to the drive toward each other.
9	Slide the drive forward out of the bay, and place it on an antistatic surface.



Step Action

10	Remove and save the four screws and the two snap-in slide rails from the device.
11	If you leave the bay empty, install a stainless steel EMI shield on the bay and a filler panel on the snap-in plastic peripheral bay cover for proper airflow and cooling.
12	Replace the snap-in plastic peripheral bay cover.
13	Replace the top cover and both side covers.
-

***Section E:* 1001t optional cards**

In this section

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Overview of 1001t optional cards

Introduction

This section describes the procedures used for installing and configuring network cards in the 1001t Server.

Procedures covered include the following:

- slot assignments for optional cards
- installing and configuring network cards
- installing and configuring a Digi Communications card

Minimum requirements

Minimum system requirements for all servers include the installation of a network card. Optional network cards may be installed, according to server configuration.

Slot assignments described in this section show the proper location for required and optional network cards.

System Configuration Utility (SCU)

For each optional expansion card installed in the system, you must run SCU to configure the system resources assigned to that peripheral. For more details, see “System Configuration Utility (SCU)” on page 4-113.

Slot assignment

Introduction

On the 1001t Server, the motherboard provides three ISA slots and seven PCI slots. These are all controlled by three PCI buses.

If a RAID configuration is required, and all PCI slots are used for application cards, then slots 1 or 2 may be filled with an ISA network card instead of a PCI network card. This leaves another PCI slot available for application use.

Network card slot assignment

The following shows proper slot assignment for network cards on the 1001t Server.

Expansion slot	Installed hardware
PCI Slot 7	PCI E LAN Network Card
PCI Slot 6	Unused
PCI Slot 5	Unused
PCI Slot 4	Optional PCI Expansion Card (Maximum 6")
PCI Slot 3	PCI CLAN Network Card
PCI Slot 2	Optional PCI Expansion Card (Full length)
PCI Slot 1	Mylex RAID card
ISA Slot 3	Unused (ISA Slot 3 and PCI slot 1 share the same faceplate slot in the chassis. Only one of these cards may be installed at a time.)
ISA Slot 2	ISA CLAN Network Card (Only one CLAN card, either PCI or ISA, should be installed.)

Expansion slot	Installed hardware
ISA Slot 1	ISA Digi PC/8e Serial Card
Memory board slot	Memory board module

Installing Ethernet CLAN cards

Purpose Follow the procedures in this section to install an Ethernet CLAN card.

Deciding which card to use Configuration of the Customer Local Area Network (CLAN) Interface depends on your system configuration and whether your LAN uses Ethernet or Token Ring. Decide which of the following cards to install based on the your system's configuration and whether your LAN supports 10 Mbps Ethernet, 100 Mbps Ethernet, or Token Ring.

PCI Ethernet card

This PCI card supports 10 Mbps Ethernet connections to a network wired with IEEE 802.3 standard 10Base2 or 10Base5 coaxial cable, or 10Base-T twisted-pair cable. Three types of connectors are supported: RJ-45, BNC, and AUI from a single card.

ISA Ethernet card

This 16-bit ISA card supports 10 Mbps Ethernet connections to a network wired with IEEE 802.3 standard 10Base2 or 10Base5 coaxial cable or 10Base-T twisted pair cable. Three types of connectors are supported: RJ-45, BNC, and AUI from a single card.

PCI 100 Mbps Ethernet card

This card supports either 10 Mbps or 100 Mbps Ethernet connections.



Caution: Ensure that the system is powered down before installing expansion cards.

Installing the PCI Ethernet card

To install and configure the PCI Ethernet card, follow these steps.

Step Action

- 1 Install the supplied CLAN PCI network card in PCI Slot 6.
- 2 Use the SCU to assign IRQ 5 to the CLAN card.
Note: For details, see "System Configuration Utility (SCU)" on page 4-113.
- 3 Start the system and launch Windows NT.
- 4 Log on to the server as Administrator.
- 5 Open the Control Panel, and double-click the Network icon.
Result: The Network settings window appears.
- 6 Click Add Adapter.
Result: The Add Adapter window appears with the list of Network Adapter cards.
- 7 Click the drop-down list. Select <Other> Requires disk from manufacturer.
- 8 Click Continue.
Result: The system prompts you to enter the location for the disk.
- 9 Insert the disk in the disk drive.
- 10 Type **a:** for the file location and press Enter.
Note: If **a:** is not the correct location, other possibilities for the file location include **a:\winnt** and **a:\windows**. If you are not sure of the exact path, check in the File Manager.
- 11 Select PCI Fast Ethernet (3C900) from the list displayed and press Enter.
Result: The system prompts you with the diagnostics dialog.
- 12 On the Diagnostics tab, click the Start button to start the self-test.
- 13 Click OK when the tests are complete.

Step Action

- 14 Click OK to close the Diagnostics window.
 - 15 Enter the TCP/IP information for the new card when prompted.
Note: This information is provided by the customer's network administrator.
 - 16 Click OK when complete.
 - 17 Click Yes to restart the system.
-

Installing an ISA Ethernet card

To install an ISA Ethernet card, follow these steps.

Step Action

- 1 Install the supplied CLAN ISA network card in ISA Slot 2.
- 2 Start the system and launch MS-DOS.
- 3 Run the install program on the disk provided with the network card.
Result: A main menu appears.
- 4 Select Configuration and Diagnostic program.
Result: The configuration screen appears.
- 5 Select IRQ5, I/O Base Address 300h.
- 6 Ensure the Plug & Play Compatibility option is disabled.
- 7 Save the configuration and restart the system.
- 8 Configure the network card using the procedures in Section G: "System Configuration Utility (SCU)."
- 9 Start the system and launch Windows NT.
- 10 Log on to the server as Administrator.
- 11 Open the Control Panel, and double-click the Network icon.
Result: The Network settings window appears.

Step	Action
12	Click Add Adapter. Result: The Add Adapter window appears with the list of Network Adapter cards.
13	Click the drop-down list. Select <Other> Requires disk from manufacturer.
14	Click Continue. Result: The system prompts you to enter the location for the disk.
15	Insert the disk in the disk drive.
16	Type a:\ for the file location and press Enter. Note: If a:\ is not the correct location, other possibilities for the file location include a:\winnt\ and a:\windows\ . If you are not sure of the exact path, check in the File Manager.
17	Select ISA EtherLink III (3C509B-COMBO) from the list displayed, and press Enter. Result: You are prompted to select the IRQ number and base address.
18	Select IRQ5 and base address 300h.
19	Click OK when your selection is complete.
20	Click Close to close the network control panel and configure the network card.
21	Enter the TCP/IP information for the card. Note: This information must be provided by the customer's network administrator.
22	Click OK to close the TCP/IP configuration screen.
23	Click Yes to restart the computer.

Installing the PCI 100 Mbps Ethernet card To install the PCI 100 Mbps Ethernet card, follow these steps.

Step	Action

1	Install the supplied CLAN PCI network card in PCI Slot 3.
2	Use the SCU to assign IRQ 5 to the CLAN card. Note: For details, see "System Configuration Utility (SCU)" on page 4-113.
3	Start the system and launch Windows NT.
4	Log on to the server as Administrator.
5	Open the Control Panel, and double-click the Network icon. Result: The Network settings window appears.
6	Click Add Adapter. Result: The Add Adapter window appears with the list of Network Adapter cards.
7	Click the drop-down list. Select <Other> Requires disk from manufacturer.
8	Click Continue. Result: The system prompts you to enter the location for the disk.
9	Insert the disk in the disk drive.
10	Type a:\ for the file location and press Enter. Note: If a:\ is not the correct location, other possibilities for the file location include a:\winnt\ and a:\windows\ . If you are not sure of the exact path, check in the File Manager.
11	Select Intel EtherExpress PRO/100B PCI Adapter (TX or T4) from the list displayed, and click OK. Result: You are prompted with the Intel PROSet dialog.
12	Click Test... to test the card. Note: Cable tests will fail if the system is not connected to the network.

Step Action

13	Click OK when the tests are complete.
14	Click OK to close the Intel PROSet window.
15	Click Close to close the network control panel and configure the network card.
16	Enter the TCP/IP information for the card. Note: This information must be provided by the customer's network administrator.
17	Click OK to close the TCP/IP configuration screen.
18	Click Yes to restart the computer.
-

Installing Token Ring CLAN cards

Introduction

Configuration of the Customer Local Area Network (CLAN) Interface depends on your system configuration and whether your LAN uses Ethernet or Token Ring. Token Ring interface cards run at 4 Mbps or 16 Mbps, but all cards on network ring must be at the same rate. Install one of the Token Ring cards listed below if it matches your system configuration, and your LAN supports Token Ring.

Token Ring cards **PCI Token Ring card**

The Racore model supports both 4 Mbps and 16 Mbps Token Ring according to the IEEE 802.5 standard. The card has 512 bytes of RAM and PCI Bus Master data transfer method.

ISA Token Ring card

This 16-bit ISA compatible card supports both 4 Mbps and 16 Mbps Token Ring according to IEEE 802.5. The card can use either Bus Master DMA or 16-bit programmed I/O.



Caution: Ensure that the system is powered down before installing expansion cards.

Installing the PCI Token Ring card

To install a PCI Token Ring card, follow these steps.

Step	Action

1	Install the supplied CLAN PCI network card in PCI Slot 3.
2	Use the SCU to assign IRQ 5 to the CLAN card. Note: For details, see "System Configuration Utility (SCU)" on page 4-113.
3	Start the system and launch Windows NT.

Step Action

- 4 Log on to the server as Administrator.
- 5 Open the Control Panel, and double-click the Network icon.
Result: The Network settings window appears.
- 6 Click Add Adapter.
Result: The Add Adapter window appears with the list of Network Adapter cards.
- 7 Click the drop-down list. Select <Other> Requires disk from manufacturer.
- 8 Click Continue.
Result: The system prompts you to enter the location for the disk.
- 9 Insert the disk in the disk drive.
- 10 Type **a:** for the file location and press Enter.
Note: If **a:** is not the correct location, other possibilities for the file location include **a:\winnt** and **a:\windows**. If you are not sure of the exact path, check in the File Manager.
- 11 Select Racore Preferred Token Ring NDIS Driver, and click OK.
- 12 In the RCPTRNDS Token Ring Adapter Card Setup window, enter the following information in the appropriate fields:
 - I/O: **PCI**
 - IRQ: **5**
 - DMA: **Autodetect**
 - Memory Address: **Autodetect**
 - Network Address: (leave blank)
 - Speed: Select either 4 or 16 Mbps, and leave rest of field as is
- 13 If you are prompted to select the type of bus in which the card is installed, select
 - Bus Type: **PCI**
 - Bus Number: **2**

Step Action

- 14 Click OK to close the configuration dialog box.
 - 15 Click Close to close the Network Control Panel and configure the network card.
 - 16 Enter the TCP/IP information for the card.
Note: Ensure you have the correct card by checking the drop down list labeled Adapter.
Note: This information must be provided by the customer.
 - 17 Click OK to close the TCP/IP configuration screen.
 - 18 Click Yes to restart the computer.
-

Installing the ISA Token Ring card

To install an ISA Token Ring card, follow these steps.



Caution: Ensure that the system is powered down before installing expansion cards.

Step Action

- 1 Install the supplied CLAN ISA network card in ISA Slot 2.
- 2 Start the system and launch MS-DOS.
- 3 Insert the Madge Smart 16/4 Ringnode Install Disk in the floppy disk drive.
- 4 Type **a:\trcfg** to configure the network card.
- 5 Press Enter when the title screen is displayed.
- 6 Press Enter to configure the displayed ringnode (network card).

Step Action

- 7 Verify that the settings listed on screen match the following information. Press Tab to change fields and Enter to change values:
 - Transfers: **16 bit Bus Master**
 - I/O Port: **0A20**
 - Ring Speed: **16 Mbps**
 - IRQ: **5**
 - SmartROM: **Disabled**
- 8 Press F5 to view the hardware settings of the card.

Note: These settings should be the same as those listed in step 7. If they are not, power down the server and make appropriate changes to the network card as described in the manufacturer's hardware documentation.
- 9 Press F8 to customize the following settings:
 - DMA channel: **5**
 - I/O Width: **16 bit**
 - Bus timing: **Normal**
 - Bus mode: **Asynch**
- 10 Press F4 to complete the configuration, and F4 again to exit the program.
- 11 Press Enter at the prompt, "Do you wish to update the card's configuration?"
- 12 Press Enter to confirm that the changes were saved.
- 13 Press Ctrl-Alt-Del to reboot the system.
- 14 Use the SCU to assign IRQ 5 to the CLAN card.

Note: For details, see "System Configuration Utility (SCU)" on page 4-113.
- 15 Boot into Window NT and log in as administrator.
- 16 Open the Control Panel, and double-click the Network icon.

Result: The Network settings window appears.

Step Action

- 17 Click Add Adapter.
Result: The Add Adapter window appears with the list of Network Adapter cards.
- 18 Click the drop-down list. Select <Other> Requires disk from manufacturer.
- 19 Click Continue.
Result: The system prompts you to enter the location for the disk.
- 20 Insert the disk in the disk drive.
- 21 Type **a:** for the file location and press Enter.
Note: If a:\ is not the correct location, other possibilities for the file location include a:\winnt\ and a:\windows\. If you are not sure of the exact path, check in the File Manager.
- 22 Select Madge Smart 16/4 AT Plus Ringnode (BM), and press Enter.
Result: The MdgMPort v2.01: Madge Smart Ringnode Setup window appears.
- 23 In the RCPTRNDS Token Ring Adapter Card Setup window, enter the following information in the appropriate fields:
- I/O Location: **0x0a20**
 - IRQ: **5**
 - DMA: **5**
 - Number of Processors: **One**
 - Max Frame Size: **4096**
 - LAA: (leave blank)
 - Rx/Tx Buffers: **Rx=04 Tx=04**
 - Traffic Statistics Gathering: **disabled**
 - Ring Speed: **Set at Adapter**
- 24 Click OK.

Step Action

25	If you are prompted to select the type of bus in which the card is installed, select • Bus Type: ISA • Bus Number: 0
26	Click Close to close the Network Control Panel and configure the network card.
27	Enter the TCP/IP information for the card. Note: This information must be provided by the customer's network administrator.
28	Click OK to close the TCP/IP configuration screen.
29	Click OK to restart the system.
-

Installing the Digi communications card

Introduction

The Digi communications card is installed to provide additional serial ports for Serial Links, or other serial port requirements. This 16-bit ISA bus card offers an additional eight serial ports for the system. Each asynchronous channel offers independently selectable data transfer rates, ranging from 50 bps to 115 bps, and independently definable character widths, stop-bits, and parity.

Installing a Digi PC/8e ISA communications card

To install a Digi PC/8e ISA communications card, follow these steps.

Step	Action

1	Remove the Digi communications card from its packaging.
2	Check that the DIP switches on the installed Digi card are set according to the Digi manual for I/O Base Address 220h. Note: Access DIP switches on the Digi card from the back of the case (without removing the top cover). Use a ballpoint pen or similar fine-tipped tool to change the switch settings.
3	Install the Digi communications card in ISA slot 1.
4	Configure the SCU using the procedures in Section G: "System Configuration Utility (SCU)."
5	Start the system and launch Windows NT.
6	Log on to the server as Administrator.
7	Open the Control Panel, and double-click the Network icon. Result: The Network settings window appears.
8	Click Add Adapter. Result: The Add Adapter window appears with the list of Network Adapter cards.

Step Action

- 9 Click the drop-down list. Select <Other> Requires disk from manufacturer.
- 10 Click Continue.
Result: The system prompts you to enter the location for the disk.
- 11 Insert the disk in the disk drive.
- 12 Type **a:** for the file location and press Enter.
Note: If **a:** is not the correct location, other possibilities for the file location include **a:\winnt** and **a:\windows**. If you are not sure of the exact path, check in the File Manager.
- 13 Select Digi PC/8e Adapter from the displayed list and click OK.
-  **Caution:** Risk of system failure. The list also contains the "Digi PC/8e (8K) Adapter." Do not use this adapter in place of the Digi PC/8e.
- 14 Insert the Windows NT CD-ROM and press Enter .
- 15 On the Ports Configuration screen, click OK to acknowledge the addition of eight communications ports.
- 16 On the Digi PC/8e Adapter Setup screen, select the following:
- Memory Base Address: **D0000**
 - I/O Base Address: **220**
 - IRQ Level: **Disabled**
- 17 Click **Close** to close the Network Control Panel and configure the communications card.
-

***Section F:* 1001t RAID system with Mylex RAID card**

In this section

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Overview of 1001t RAID system with Mylex RAID card

Introduction

To expand the capabilities of your 1001t Server, you can install an optional RAID card. This section describes the 1001t RAID system, and the procedures for replacing and configuring its components. Skip this section if you are building a non-RAID system.

Included procedures

Procedures covered include the following:

- replacing a RAID card
- cabling a RAID system
- preparing to configure a RAID system
- creating a system drive



Caution: Take precautions to protect internal components. Electrostatic discharge (ESD) can render boards damaged or unusable. Wear an ESD wrist strap while performing the procedures in this section.

RAID system summary

Description Redundant Arrays of Inexpensive Disks (RAID) systems are systems that employ two or more drives in combination for fault tolerance and performance. The 1001t Server can be configured to type 1 RAID array using the optional hardware RAID controller, or as individual drives (non-RAID).

The server houses two SCA SCSI backplanes, each of which is capable of holding five drives.

About RAID The RAID controller is a card that provides high-performance disk mirroring. It is always installed in PCI slot 1.

Using RAID, two equal-capacity disks mirror one another. One disk serves as the backup copy of the other disk. If one drive fails, the other automatically replaces it. This level prevents loss of information and network time.

RAID and hot-swappable components A RAID controller is also essential to hot-swap SCA SCSI hard drives. Without the RAID controller, hot-swap device drivers, and operating system support, replacing a drive during system operation can cause a fatal system error and force a system reboot.

RAID card slot assignment A RAID system is optional on the 1001t Server. The Mylex PCI RAID card is installed in the bottom PCI slot (PCI Slot 1).

Replacing the RAID card

Purpose Follow the procedure in this section to replace a faulty RAID card. This procedure is the first of five to completely install and configure a RAID card.

Requirements Before replacing the RAID card, gather the following tools:

- a Phillips-head screwdriver
- an antistatic wrist strap
- the replacement Mylex RAID card

Replacing the RAID card To replace a RAID card, follow these steps.

Step	Action

1	Review the manufacturer's documentation for the replacement card.
2	Power down the server and disconnect all power cords.
3	Remove the chassis cover and locate the installed RAID card in PCI slot number 1.
4	Disconnect all cabling from the RAID card.
5	Loosen the screw located at the top of the card's faceplate.
6	Remove the card from the chassis.
7	Unpack the replacement card.
8	Align the replacement card with PCI slot 1.
9	Apply downward pressure until the card is evenly and securely seated in the slot.
10	Secure the card by tightening the screw at the top of the faceplate.

What's next?

Once the card is secured on the chassis, you should reconnect the cables. Refer to “Attaching cables to the RAID card” on page 4-106 in this section.

System diagnostics procedures should be performed after installing or replacing any server component.

Attaching cables to the RAID card

Purpose Follow the procedure in this section to continue replacing your RAID card. Once you have seated the RAID card firmly on the chassis, you need to connect cables to the card. This is the second of five procedures.

Requirements To connect the RAID card cabling, you require the following:

- RAID cables for two header connections
Both header connections must be cabled. The connections are referred to as Channel 0 and Channel 1.
- a properly seated RAID card

Attaching cables To attach cables to the RAID card, follow these steps.

Step	Action
1	Connect one end of the first cable to the Channel 0 header.
2	Route the other end to the primary SCSI backplane. Result: The backplane provides SCSI termination.
3	Connect the second cable to the Channel 1 header.
4	Route the other end to the secondary backplane. Result: The SCSI backplane provides termination for this channel.
5	Replace the chassis cover.



Caution: Ensure that no cable touches any CPU component. Heat transfer may cause serious damage to the system.

What's next? Once you have installed and cabled the RAID card, you need to configure the card. Refer to "Configuring the RAID system" on page 4-107 for details.

Configuring the RAID system

Purpose

Follow the procedure in this section to continue replacing your RAID card. After you have installed and cabled the RAID card, you need to run SCU to assign IRQ 11 to the RAID card. For SCU procedures, see “System Configuration Utility (SCU)” on page 4-113. Complete the card installation by configuring the system.

Note: The following instructions only apply to version 2.x RAID cards or lower.

Requirements

Configuring a RAID system requires minimum vintage software as follows:

- a disk titled “DAC960 Configuration and Utilities,” including the file \daccfg\daccf.exe, dated November 12, 1996, or later (version 4.40 or better)
- a Windows NT utilities disk titled “DAC960-I Software Kit,” including the file \NT\dac960nt.sys, dated July 10, 1996, or later
- proper drivers, as shipped by Nortel with your RAID card

If updated versions of installation software are required, contact an authorized Nortel representative.

Configuring hard drives in a RAID system

To configure new hard drives in a RAID system, follow these steps.

Starting Point: A powered-down 1001t Server

Step	Action

1	Power up the server.

Result: The screen prompts you to press CTRL+M to access DAC960 BIOS.

Step Action

- 2 Press CTRL-M.
Result: Three options appear:
BIOS enabled
CD-ROM boot disabled
2 Gbyte drive geometry
- 3 Select 2 Gbyte drive geometry and press Enter.
Result: The system asks whether you would like to continue with increasing the drive geometry.
- 4 Press Y.
Result: The drive geometry is increased to 8 Gbytes.
Note: This ensures that the RAID card will use the entire capacity of the hard drive.
- 5 Insert the disk, "DAC960 Configuration and Utilities," into the floppy disk drive a:, and restart the computer.
Result: The system boots to the a:\> prompt.
- 6 Type **cd\daccfg** and press Enter .
Result: The a:\daccfg\> prompt is displayed.
- 7 Type **daccf** and press Enter to start the DAC Config utility.
Result: The DAC Config utility begins.
- 8 Use the arrow keys to select New Configuration from the main menu and press Enter.
Result: The system pack configuration screen is displayed.
- 9 Use the arrow keys to select Define Pack, and press Enter.
Result: The Pack Definition menu is displayed.
- 10 Select Create Pack using the arrow keys, and press Enter.

Step Action

- 11 Select the first device that will make up System Pack A (Disk A-0) and press Enter.
Note: Refer to the table "Hard drive settings" on page 4-44 for more information.
Example: For Drive A-0, select channel 0, SCSI ID 0.
Result: The drive is labeled A-0 and the state is changed from RDY to ONL.
- 12 Select the second device for System Pack A by channel and SCSI ID.
Note: You may be warned that you are combining two drives of different sizes. This is normal and expected if two different models of hard drives are used for a single system pack.
Example: For Drive A-1, select channel 1, SCSI ID 0.
Result: This identifies the second device for System Pack A as A-1. The drive's state is changed from RDY to ONL.
- 13 Press Escape to close the first system pack.
- 14 Repeat steps 10 to 13 to configure System Pack B, and System Pack C if applicable.
Result: The system packs are all defined.
- 15 Select Arrange Pack and press Enter.
Result: The cursor control moves to the SCSI devices for selection.
- 16 Use the arrow keys to select a drive from System Pack A and press Enter.
Example: Select A-0.
Result: The system pack is arranged.
- 17 Repeat step 12 for the remaining system packs.
Result: When all system packs are arranged, you are returned to the New Configuration Menu.
- 18 Select Define System Drive and press Enter.
Result: The System Drive Definition screen is shown.

Step Action

19	Select Create System Drive and press Enter. Result: The system prompts you to choose which RAID level to use.
20	Select RAID 1 and press Enter. Result: The system prompts you to enter the size of the first system pack.
21	Enter the size of the system pack. Note: System pack sizes are listed in the table "RAID system pack sizing" on page 4-111. Result: The system prompts you to confirm that you want to create this system pack.
22	Select Yes and press Enter to create the system pack. Result: The system pack is created and listed with its settings.
23	Repeat steps 20 to 22 for the remaining system packs. Result: The system packs are all defined.
24	Press Escape to exit the System Drive Definition menu. Result: The New Configuration menu is displayed.
25	Press Escape to exit to the main menu. Result: You are prompted to save this new configuration.
26	Select Yes and press Enter. Result: The configuration is saved to the Mylex PCI RAID card, and the system returns you to the main menu.
-

What's next?

After initially configuring the RAID system, you need to create system drives. Continue with the next procedure, "Creating system drives" on page 4-111 for details.

Creating system drives

Purpose Follow the procedure in this section to continue replacing your RAID card. Creating RAID system drives limits the capacity of any system pack to the size of the smallest drive within the pack. This is the fourth of five procedures for configuring a RAID card.

Calculating the hard drive capacity As drives are replaced, a system pack could consist of two drives of different sizes. The size of the RAID system drive specified is a value calculated as twice the smallest drive in a pack.

Example If System pack A has a nominal capacity of 4 Gbytes (two drives of 2 Gbytes each), enter a system drive size of 4098. Since RAID level 1 (mirroring) is used, the resulting capacity is half of what you specified. A replacement drive must always be at least as big as the drive which it is replacing.

RAID system pack sizing The following table specifies the system drive sizes to enter when configuring RAID systems.

Qualified disk make/model	Physical drive capacity	Size of RAID system drive to specify	Resulting RAID level 1 capacity
Seagate ST32155WC	2049 Mbytes	4098 Mbytes	2049 Mbytes
Seagate ST32272	2157 Mbytes	4314 Mbytes	2157 Mbytes
Seagate ST34371	4148 Mbytes	8296 Mbytes	4148 Mbytes

Creating system drives

Continue configuring the RAID system by creating system drives as follows.

Step Action

- 1 Select Define System Drive and press Enter.
 - 2 Select Create System Drive and press Enter.
 - 3 Select RAID 1 and press Enter.
 - 4 Enter the size of the system drive according to system pack sizing guidelines, and press Enter.
Result: A dialog box asks whether you wish to create this system drive.
 - 5 Select YES.
 - 6 Repeat steps 1 to 5 for any remaining system packs.
 - 7 Press Escape to return to the Create System Drive screen.
 - 8 Press Escape to return to the main menu.
 - 9 Select Yes when prompted to save the configuration.
Result: The Main Menu appears.
-

***Section G:* System Configuration Utility (SCU)**

In this section

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Adding an ISA expansion card	4-116
Configuring a PCI expansion card	4-120

Overview of System Configuration Utility (SCU)

Introduction

This section lists procedures that you should follow when configuring system hardware using the System Configuration Utility (SCU).

The SCU is used to configure ISA expansion cards so that the system BIOS knows which resources the ISA card is using. PCI expansion cards report their resource requirements directly to the BIOS, but ISA must be configured with the SCU.

This section includes procedures for adding an ISA expansion card, and for configuring an installed PCI expansion card.

IRQ assignments

Introduction

This table lists the IRQ settings for the 1001t Server and the devices used within the server.

IRQ settings

IRQ	Device
0	Timer
1	Keyboard
2	Unused
3	Serial Port 2 (COM2)
4	Serial Port 1 (COM1)
5	CLAN Network Interface
6	Floppy Controller
7	Parallel Port 1 (LPT1)
8	Real-Time Clock
9	ELAN Network Interface
10	Available for application
11	PCI RAID Controller / Onboard SCSI Controller (s)
12	PS/2 Mouse
13	Math Coprocessor
14	Primary EIDE Controller
15	Available for application (Multiple MPB-10 cards can share this IRQ)

Adding an ISA expansion card

Purpose

You must reserve resources for the ISA expansion card using the SCU. You require the hardware manufacturer's manual for the ISA card to perform this procedure properly.

ISA SCU information

This table lists the ISA SCU information for cards that are approved for the 1001t Server. Use this information when defining the ISA network card in the procedure "Adding an ISA expansion card" on page 4-118.

Card name	ISA field information
Digi PC/8e Serial Card	Board Name: Digi PC/8e Serial Card, IRQ Disabled
	Manufacturer: Digi Inc.
	Type: Communications Board
	Slot: 16 bit
	DMA: (leave blank)
	IRQ: (leave blank)
	Memory: Start: 220, End: 223, Size: Byte
	Ports: Size: 8KB, Address: D0000h, Use: System RAM (don't cache), Width: Byte, Decode: 24bit

Card name	ISA field information
3Com ISA Ethernet Card	Board Name: 3Com ISA Ethernet Card
	Manufacturer: 3Com Corporation.
	Type: Network Board
	Slot: 16 bit
	DMA: (leave blank)
	IRQ: Level: 5, Trigger: Edge
	Memory: Start: 300, End: 30F, Size: Byte
	Ports: (leave blank)
Madge ISA Token Ring Card	Board Name: Madge ISA Token Ring Card
	Manufacturer: Madge Networks
	Type: Network Board
	Slot: 16 bit
	DMA: 5
	IRQ: Level 5, Trigger: Edge
	Memory: Start: 0A20, End: 0A2F, Size: Byte
	Ports: (leave blank)

Requirements

To add an ISA expansion card, you require the following:

- the hardware manufacturer's manual for the ISA card
- the SCU disk

Adding an ISA expansion card

To add an ISA expansion card, follow these steps.

Step	Action

1	Insert the bootable System Configuration Utility disk in the floppy drive of the server.

2	Power on the server.

Result: The server starts and displays the following screen:

MS-DOS Startup Menu

1. Execute AMISCU

2. Execute AMISCU For System With PNP OS

Enter a choice:

3	Type 1.

Result: The SCU will load for non Plug & Play systems. The following screen is displayed (version numbers may vary).



4	Press Enter to continue loading the SCU software.

Result: The SCU software loads. The main menu of the program is displayed.

5	Use the arrow keys to select Step 2: Add and Remove Boards.

Step Action

6	Press Enter. Result: The system creates configuration files and prompts you to enter a password.
7	Press Escape to bypass the password screen. Result: The Add and Remove Boards screen appears.
8	Press F6 to define the ISA network card. Complete the form using information for the specific card in the table "ISA SCU information" on page 4-116.
9	Press F10 to save the entry to the database. Result: The system displays a message that the ISA board definition has been saved.
10	Press Enter.
11	Press Escape. Result: The system returns you to the Add and Remove screen.
12	Press Insert twice to insert the Network card.
13	Select the ISA card and press Enter. Result: The system returns to the Add and Remove screen.
14	Press Escape. Result: The system returns to the SCU main menu.
15	Use the arrow keys to select Step 4: Save Configuration.
16	Press Enter. Result: The SCU software displays messages as it saves the configuration in CMS, IMF, and SET files, and in nonvolatile memory.
17	Press Escape to exit. Result: The Confirm Exit dialog box appears.
18	Press Enter to exit the utility. Result: The system returns you to the a:\ prompt.
-

Configuring a PCI expansion card

Purpose Follow the procedure in this section to configure a PCI expansion card. After you install a PCI expansion card, the card reports resource requirements to the BIOS directly. You must configure the installed PCI card using SCU.

Configuring a PCI expansion card To configure a PCI expansion card, follow these steps.

Step	Action

1	Insert the bootable System Configuration Utility disk in the floppy drive of the server.

2	Power on the server.

Result: The server starts and displays the following screen:

MS-DOS Startup Menu

1. Execute AMISCU

2. Execute AMISCU For System With PNP OS

Enter a choice:

Step Action

3 Type 1.

Result: The SCU will load for non Plug & Play systems. The following screen is displayed (version numbers may vary).

**4 Press Enter to continue loading the SCU software.**

Result: The SCU software loads. The main menu of the program is displayed.

5 Use the arrow keys to select Step 3: Change Configuration Settings.**6 Press Enter.**

Result: The SCU software creates configuration files. You will be prompted for the password.

7 Press Escape to bypass the password screen.

Result: The SCU performs a syntax check on some floppy based files. The Change Configuration Settings screen is shown. All installed PCI devices are displayed.

8 Use the arrow keys to select the device you want to modify, and press Enter.

Result: The Edit Settings screen is displayed.

9 Use the arrow keys to select Enabled: Current Configuration, and press Enter.

Result: A list of alternate selections are displayed.

Step	Action
10	Select Enabled: Manual Configuration, and press Enter.
11	Press the F6 key. Result: The resources for the selected PCI card are displayed.
12	In the IRQ field, use the +/- keys to set the value according to the table "IRQ settings" on page 4-115.
13	Press Enter when the IRQ has been set. Result: You are returned to the Edit Settings for: screen.
14	Press Escape to exit to the Change Configuration Settings screen.
15	To configure another expansion card, repeat steps 8 to 14.
16	When you complete the configuration of installed hardware, press Escape. Result: The main menu is displayed.
17	Select Step 4: Save Configuration, and press Enter. Result: The SCU software displays messages as it saves the configuration in CMS, IMF, and SET files, and in nonvolatile memory.
18	Select Step 6: Exit, and press Enter to exit the SCU software. Result: You are prompted to restart before the settings will take effect.
19	Press F10 to reboot the system.

Chapter 5

Performing software maintenance

In this chapter

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Overview

Introduction

This chapter provides procedures for software maintenance routines that may be required for the Symposium Call Center Server. It also provides instructions for installing and configuring the Symposium Call Center Server operating system.

Attention: Consult your Nortel sales or service representative before attempting any of these procedures. Maintenance performed by unqualified personnel may void your service warranty.

***Section A:* Software troubleshooting**

In this section

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Overview of software troubleshooting

Introduction

This section provides troubleshooting checklists and procedures in case you experience any problems with the application software or with connecting to the network or server.

Problems with application software

Checklist

If you have problems with the application software, check the following:

- Ensure that all cables are installed correctly. See the *Nortel Symposium Call Center Server 1001t Hardware Installation Guide* for detailed information.
- Verify that the system board jumpers are set correctly. See the *Nortel Symposium Call Center Server 1001t Hardware Installation Guide* for detailed information.
- Verify that the software is properly configured for the system. See the *Nortel Symposium Call Center Server Software Installation Guide* for instructions on setting up and using the software.
- If other software runs correctly on the system, contact your Nortel service representative about the failing software.

If the problem persists, contact your Nortel representative for assistance and more information.

Cannot connect to the server

Checklist

If you cannot connect to the server, check the following software components:

- Ensure that you are using the drivers that are shipped on the system configuration software CD for the CLAN/ELAN network controller.
- Ensure that the driver is loaded and the protocols are bound.
- Ensure that the network cable is securely attached to the connector at the system back panel and that the network controller link LED is on and visible at the back panel. If the cable is attached but the problem persists, try a different cable.
- Ensure that the hub port is configured for the same duplex mode as the network controller.
- Check with your LAN administrator about the correct networking software that needs to be installed.
- If you are directly connecting two servers, some hubs may also require a crossover cable. Check your hub documentation for more information on crossover cables.
- Check the visible network controller LEDs through an opening at the system back panel.

Problems with the network

Checklist

If you are having network problems, check the following list for possible solutions.

SETUP.EXE reports the adapter is “Not enabled by the BIOS.”

- Use the SCU software to verify interrupt and other system resource settings. For more information, refer to Section G, “System Configuration Utility (SCU),” on page 4-113.
- Verify that the proper Windows NT Service Pack is loaded.

The network driver fails to start, or hangs the server on starting.

- Use the SCU software to verify interrupt and other system resource settings. For more information, refer to Section G, “System Configuration Utility (SCU),” on page 4-113.
- Verify that the proper Windows NT Service Pack is loaded.
- Verify that diagnostics on the card pass.

Diagnostics pass, but the connection fails.

- Ensure the network cable is securely attached.
- Ensure you specify the correct frame type in your net.cfg file.

The Link LED does not light.

- Ensure you have loaded the network drivers.
- Check all cable connections.
- Try another port on the hub.
- Ensure you have the correct type of cable between the adapter and the hub. Some hubs require a crossover cable, while others require a straight-through cable. For more

information about crossover cabling, see the manufacturer's hub directions.

The Activity LED does not light.

- Ensure you have loaded the correct network drivers.
- The network may be idle. Try to access a server.

The controller stopped working when an add-in adapter was installed.

- Ensure the cable is connected to the port from the onboard network controller.
- Ensure your PCI BIOS is current. Try the "PCI installation tips" on page 5-9.
- Ensure that the adapter is not attempting to share interrupts, since Windows NT does not support shared interrupts. See the "PCI installation tips" on page 5-9.
- With the system powered down, try reseating the add-in adapter.

The add-in adapter stopped working without apparent cause.

- With the system powered down, try reseating the adapter first. If the problem persists, try installing the card in a different slot. This helps you identify whether the problem is with the adapter or with the slot.
- The network driver files may be corrupt or deleted. Delete and then reinstall the drivers.
- Run the diagnostics.

PCI installation tips

Checklist

Here are two useful PCI tips:

- Reserve interrupts (IRQs) and memory addresses specifically for ISA adapters. This prevents PCI cards from trying to use the same settings that ISA cards are using. Use the SCU to keep track of the ISA adapter resources.
- Certain drivers may require interrupts that are not shared with other PCI drivers. The SCU can be used to adjust the interrupt numbers for PCI devices. For certain drivers, you may have to alter settings so that interrupts are not shared. Interrupt sharing is not supported on this platform.

***Section B:* Preparing for software installation**

In this section

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Checking hard drives	5-13
Removing old partitions	5-14

Overview of preparing for software installation

Introduction

Before you install any software on your server, ensure that the hard drives are empty. Reset hard drives before installing software, remove old partitions, and create and format new partitions.

Checking hard drives

Introduction Ensure that the hard drives on your system are empty before installing any software. Reset your hard drives to prevent any problems with orphaned files.

Requirements To check the hard drives, you require the following:

- MS-DOS 6.20 Installation Media (set of three disks)

Checking hard drives To check hard drive, follow these steps.

Starting Point: A powered-down 1001t Server

Step	Action
1	Insert MS-DOS Setup Disk #1 in the floppy disk drive.
2	Power up the system. Result: The system starts and the MS-DOS Setup screen appears.
3	Press F3 and, when prompted, press F3 again. Result: The A:\> prompt is displayed.
4	Type fdisk and press Enter. Result: The Fixed Disk Setup Program appears.
5	Type 4 to select Display Partition Information from the main fdisk menu. Result: The setup of the hard drives is shown.
6	Examine the hard drive setup.

What's next? If any disk partitions are listed, refer to “Removing old partitions” on page 5-14 to remove them.

If there are no old partitions, continue to “Installing the operating system” on page 5-19.

Removing old partitions

Introduction If your system has old partitions, remove them to prepare for a fresh installation. To determine if you have any old partitions, refer to “Checking hard drives” on page 5-13.

Requirements To remove old partitions, you require the following:

- Nortel Symposium Call Center Server Operating System Setup disks (set of three)
- Symposium Call Center Server Operating System CD-ROM
- manufacturer-supplied support disks
 - the Mylex driver disk (if the system uses a RAID card)
 - the Symbios Logic SCSI driver disk (if the system does not use a RAID card)

Removing old partitions To remove old partitions, follow these steps.

Starting Point: A powered-down 1001t Server that has software installed

Step	Action
1	Insert the Windows NT Setup Disk #1 in the floppy disk drive.
2	Power up the system. Result: The system begins, reads the data on Disk #1, and prompts you to Enter Disk #2.
3	Insert Windows NT Setup Disk #2 and press Enter. Result: Files on the disk are loaded onto the server, and Windows NT Setup screen appears.
4	Press Enter to continue the setup. Result: The system prompts you to select the mass storage controllers in the server.

Step Action

- 5 Type **S** to bypass the mass storage controller detection.
Result: You are prompted to select the mass storage controllers.
- 6 Type **S** to select a controller.
Result: A list of controllers appears on the screen.
- 7 Scroll through the list using the arrow keys, and highlight IDE CD-ROM (ATAPI 1.2)/PCI IDE Controller.
- 8 Press Enter.
Result: The system prompts you to insert the Windows NT Setup Disk #3.
- 9 Insert the Windows NT Setup Disk #3 and press Enter.
Result: The EIDE driver is loaded.
- 10 Type **S** to select another disk controller.
Result: The system displays another list of controllers.
- 11 Use the arrow keys to highlight Other (requires disk provided by a hardware manufacturer). Press Enter.
Result: You are prompted to insert the manufacturer's support disk.
- 12 Insert the manufacturer-supplied hardware support disk and press Enter.
Result: The system prompts you to select the correct driver for the installed hardware.
- 13 Highlight the appropriate SCSI driver for the platform and press Enter.
Result: The SCSI driver is loaded from the disk.
- 14 Press Enter to continue setup.
Result: You are prompted for the Windows NT Setup Disk #3.

Step Action

- 15 Insert Windows NT Setup Disk #3 and press Enter.
Result: The device drivers load from the disk. The system prompts you to insert the Symposium Call Center Server Operating System CD-ROM.
- 16 Insert the Symposium Call Center Server Operating System CD-ROM in the CD-ROM drive and press Enter.
Result: The Windows NT license agreement is shown.
- 17 Press F8 to continue.
Result: You are prompted to upgrade the version of Windows NT on the hard drive.
- 18 Type **N** to cancel the upgrade.
Result: The list of installed hardware components is shown.
- 19 Press Enter to choose "The above list matches my computer."
Result: The Windows NT disk partitioning screen is shown.
- 20 Use the arrow keys to highlight the first partition on the first hard drive and press **D**.
Result: The system warns you that the partition is a partitions system.
- 21 Press Enter to bypass the warning.
- 22 Press **L** to delete the partition.
Result: The partition is deleted.
- 23 Use the arrow keys to highlight the next available partition and press **D**.
Result: The system prompts you to confirm the deletion.
- 24 Press **L** to confirm the deletion.
Result: The partition is deleted.
- 25 Repeat steps 23 and 24 until all partitions on all disks are deleted.
Result: All disks are shown as "Unpartitioned space."

Step Action

- 26 Highlight the "Unpartitioned space" on the primary hard drive (Disk 0) and press Enter.
Result: The system asks you to select the format type, either NTFS or FAT.
- 27 Press Escape, and press F3.
Result: The system asks you to confirm that you want to exit Windows NT Setup.
- 28 Press F3 again to exit.
Result: You are prompted to remove disks from the floppy disk drives, and CDs from the CD-ROM drive.
- 29 Remove the Windows NT installation media from the system and place it in its protective case.
- 30 Insert the MS-DOS Setup Disk #1 into the floppy disk drive and press Enter.
Result: The system restarts and launches MS-DOS Setup.
- 31 Press F3 to exit MS-DOS Setup.
Result: You are prompted to confirm that you wish to exit.
- 32 Press F3 to confirm that you want to exit.
Result: The system returns you to the A:\> prompt.
- 33 Type **fdisk** and press Enter.
Result: The Fixed Disk Setup Program appears.
- 34 Type **3** (Delete partition) at the main fdisk menu and press Enter.
Result: You are prompted to choose the type of partition to delete.
- 35 Type **1** (Delete Primary DOS Partition) and press Enter.
Result: The system warns that data could be lost, and asks you to enter the partition number.

Step Action

- 36 Type **1** and press Enter.
Result: The system prompts you to enter the volume label.
Note: The volume label should be left blank.
- 37 Press Enter to confirm the volume label.
Result: The fdisk program asks you to verify your selection.
- 38 Type **Y** and press Enter.
Result: A message confirms that the partition was deleted.
- 39 Press Escape to continue.
Result: The system returns you to the main fdisk menu.
- 40 Press Escape to exit fdisk.
Result: The computer warns that it will reboot.
- 41 Press Enter to reboot the system.
-

What's next?

After you perform this procedure, this hard drive is free of any old partitions.

You can now continue with the procedure “Installing the operating system” on page 5-19.

***Section C:* Installing the operating system**

In this section

Overview of installing the operating system	5-20
Installing MS-DOS	5-22
Installing the operating system	5-26

Overview of installing the operating system

Introduction	Installing the operating system on the 1001t Server consists of two procedures: • installing MS-DOS (6.20) (must be installed first) • installing the Symposium Call Center Server operating system
Before you begin	All 1001t Server hardware must be set up properly before installing any software. You should check the hard drives to ensure they are empty. Hard drives should be reset before installing software, old partitions should be removed, and new partitions should be created and formatted. For more information, see “Preparing for software installation” on page 5-11. Before you can install MS-DOS on your system, you must create and format new partitions on the primary hard drive. These procedures should be completed after you have removed any old disk partitions, and before you install MS-DOS.
Disable console redirection	Console port redirection must be disabled during the installation of MS-DOS and Windows NT operating systems. For instructions, see “Disabling Console Redirection” on page 2-5.
Run the SCU	The SCU must be run to configure the hardware in the motherboard as well as in any adapter cards that are being used (for example, Ethernet, Token Ring, RAID controller).

Reboot the system In addition to the SCU settings, you must reboot the system from power up and press F1 when prompted to enter the BIOS SETUP utility. Make the following change, then save and exit from the utility.

Item	From	To	Reason
Multiprocessor APIC at boot	Disabled (use F1 SETUP)	Enable (use F1 SETUP)	Required for Windows NT HAL

Note: If the BIOS upgrade or SCU has not been run properly, you may expect problems with the Windows NT installation (such as incompatible hardware abstraction layer [HAL] DLLs installed for the MPS specifications, or incorrect Windows NT kernel version installed for Multiprocessor configurations).

Installing MS-DOS

Introduction Follow the procedures in this section to install MS-DOS on your system.

Before you begin Before you can install MS-DOS on your system, you must create and format new partitions on the primary hard drive. These procedures should be completed after you have removed any old disk partitions, and before you install MS-DOS.

Requirements You need the following items to install MS-DOS:

- MS-DOS 6.20 installation kit (a set of three disks). The disks are labeled as follows:

MS DOS 6.20

NT3R7208

A0659142

Disk *n* of 3

Partition hard drive In a dual boot system with MS-DOS and Windows NT, MS-DOS is installed on one partition and Windows NT is installed on another.

Creating the MS-DOS partition To create an MS-DOS partition, follow these steps.

Starting Point: A powered-down 1001t Server

Step	Action
1	Insert the disk labeled MS-DOS 6.20 Install Disk 1 of 3 in drive A.
2	Boot up (or reboot) the system. Result: The computer boots, and the MS-DOS 6.2 Setup screen appears.

Step Action

- 3 Press F3 twice to exit the setup menu.
Result: The A:\> prompt appears.
 - 4 Type **fdisk** to start the utility to partition the hard drive and press Enter.
Result: The FDISK Options screen appears.
 - 5 Type **1** (Create DOS Partition or Logical DOS Drive), then press Enter.
 - 6 Type **1** (Create Primary DOS Partition), then press Enter.
Result: You are asked if you want to use the maximum available size for a primary DOS Partition and make it active.
 - 7 Type **N**, then press Enter.
Result: You are prompted to enter the partition size.
 - 8 Use the backspace key to delete the suggested value, and type **100** (to create a 100 Mbyte partition for drive C), then press Enter.
Result: A message states that the primary DOS partition has been created.
 - 9 Press Esc to continue.
 - 10 Type **2** (Set Active Partition), then press Enter.
Result: You are prompted for the partition to be made active.
 - 11 Type **1** to select the newly created partition, then press Enter.
 - 12 Press Esc twice to exit FDISK, then press any key to reboot the computer.
Result: The computer reboots, and the MS-DOS 6.2 Setup screen appears.
-



Caution: Do not create any other partitions using FDISK. If you do, you may lose data.

What's next?

Format the MS-DOS partition.

**Formatting the
MS-DOS partition**

To format the MS-DOS partition, follow these steps.

Starting Point: The MS-DOS Setup window

Step Action

1	Insert the disk labeled MS-DOS 6.20 Install Disk 1 of 3 in drive A.
2	Boot up (or reboot) the system. Result: The computer boots, and the MS-DOS 6.2 Setup screen appears.
3	Press F3 twice to exit the setup menu. Result: The A:\> prompt appears.
4	Type format c: and press Enter. Result: The system prompts you to confirm the format.
5	Type Y and press Enter. Result: The formatting progress is displayed. When the formatting is complete, the system prompts you to enter a volume label.
6	Type MS-DOS_6 and press Enter. Result: The format summary is displayed. You are returned to the A:\> prompt.
-

What's next?

Install MS-DOS 6.20.

Installing MS-DOS on the active partition To install MS-DOS on the partitioned drive, follow these steps.

Starting Point: The MS-DOS Setup menu

Step	Action

1	Insert the disk labeled MS-DOS 6.20 Install Disk 1 of 3 in drive A, then reboot the system. Result: The MS-DOS 6.20 Setup menu appears.
2	Press Enter to set up MS-DOS. Result: A message appears which states that MS-DOS is already installed on your computer.
3	Select Continue Setup and press Enter.
4	If you are prompted to configure unallocated space on the hard drive, select Do not configure unallocated disk space, and press Enter. Result: Setup displays the current Date/Time, Country, and Keyboard Layout settings.
5	Make any required changes to the Date/Time, Country, and Keyboard Layout settings. Ensure that United States is selected for Country.
6	Use the up/down arrow keys to select The Settings are correct and press Enter.
7	Accept the default installation directory (C:\DOS), and press Enter.
8	Insert disks.
9	Complete the installation by inserting disks as prompted by the MS-DOS setup program.

Note: Do not run MemMaker or enable MS-DOS DoubleSpace Disk Compression.

What's next? Install the Symposium Call Center Server operating system.

Installing the operating system

Introduction

After the MS-DOS installation has been completed successfully, install the Symposium Call Center Server operating system on the 1001t Server.

Requirements

To install the Symposium Call Center Server operating system, you need the following:

- Symposium Call Center Server Operating System Setup disks (set of 3)
- Symposium Call Center Server Operating System CD-ROM

Before you begin

Before starting the Symposium Call Center Server operating system installation, collect the following information:

- unique Machine Name for the server and Workgroup name
- two unique IP Addresses for the network adapter cards

Attention: The ELAN and the CLAN must be on different subnets.

You will be prompted for the above information during the installation.

**Starting the
Windows NT setup**

To start the Windows NT setup program, follow these steps.

Step Action

- 1 Insert the disk labeled Nortel Symposium Call Center Server Operating System Setup Disk 1 of 3 into drive A.
- 2 Start up the system.
Result: As the BIOS detects the computer's hardware, it displays messages, then the Windows NT Setup screen appears, and displays a series of messages at the bottom of the screen.
- 3 When prompted, insert the disk labeled Nortel Symposium Call Center Server Operating System Setup Disk 2 of 3, and press Enter.
Result: A further series of messages appears at the bottom of the screen, then the Windows NT Server Setup screen appears.
- 4 Press **Enter** to set up Windows NT.
- 5 Press **C** to select Custom Setup.
- 6 Press Enter to automatically locate mass storage devices.
- 7 Insert Nortel Symposium Call Center Server Operating System Setup Disk #3 when prompted, and press Enter.
Result: A message appears which indicates that setup has detected your SCSI controller.
- 8 Press Enter.
- 9 Verify that the information on the screen matches the equipment in your server. Ensure that the setup program has located the CD-ROM drive and the SCSI controller.
- 10 If the information does not match, type **S** to specify additional devices.

Step Action

- 11 To specify the mass storage devices:
 - a. Type **S** to select a device.
 - b. Select Other (requires disk provided by a hardware manufacturer), and then press Enter.
 - c. If the system does not use RAID:
 - i. Insert the SymBIOS Logic PCI driver floppy disk, then press Enter.
 - ii. Choose SymBIOS Logic PCI (53c8XX), then press Enter.
 - d. If the system does use RAID:
 - i. Insert the DAC960 driver floppy disk, then press Enter.
 - ii. Choose DAC960 NT SCSI Driver, then press Enter.
 - e. Remove the RAID or SCSI controller driver disk.
 - f. Type **S** to select an additional device.
- 12 To continue setup, press Enter
Result: You see the following message: "Loading device driver (...)"

Windows NT determines which server devices are suitable from which to install Windows NT, and displays the message:

Setup has determined that your computer includes a CD-ROM drive as well as...3.5" floppy disk drives.

Windows NT prompts you to select the medium from which you will install Windows NT.
- 13 Insert the Installation CD-ROM into the CD-ROM drive.
- 14 Press Enter to choose To install Windows NT from CD-ROM.
Note: If Windows NT was previously installed on the hard drive, a message appears asking if you want to upgrade. Press **N** to install a fresh copy of Windows NT.
Result: Setup lists the hardware and software components.
- 15 Press Enter to choose "The above list matches my computer."
Result: The existing partitions and spaces available for creating new partitions are shown.

Step Action

- 16 Use the arrow keys to select the unpartitioned space on the first Disk (Disk 0) in the list, then press Enter to choose "Install Windows NT on the unpartitioned space."

Result: You are prompted for the type of format: NTFS or FAT.

- 17 Choose "Format partition using the NTFS file system," then press Enter.

Note: This process may take from 10 to 30 minutes for a 2 Gbyte drive; it may take only a few seconds for a drive controlled by a RAID controller.

Result: The system prompts you to enter the location for the Windows NT files.

- 18 Accept the default \WINNT35, then press Enter.

Note: If you are reinstalling Windows NT, type **INT35_TMP** and press Enter.

Result: Setup asks if it should perform an exhaustive examination of the hard drives.

- 19 Press Enter.

Result: Setup performs an exhaustive secondary examination of the hard drives. This process takes approximately one minute to complete, depending on the disk configuration of the server.

- 20 When prompted, remove the driver disk from the disk drive and the CD-ROM from the CD-ROM drive, then press Enter to restart the system to continue the Windows NT Setup.

Result: The computer reboots and loads Windows NT 3.51.

What's next?

Enter Windows NT machine information.

Entering Windows NT machine information To continue the installation process, follow these steps.

Starting Point: The Windows NT Setup Registration screen

Step Action

- 1 With the Windows NT Setup screen displayed, enter the name of the company representative (for example, the system administrator's name) and the company name in the fields.
- 2 Click Continue.
Result: The Verification window is displayed.
- 3 If the information displayed is correct, click Continue. If you made a mistake, click Change and correct the entry.
Result: The Product ID window is displayed.
- 4 Enter the Product ID number from the CD-ROM label, then click Continue.
Result: The verification window is displayed.
- 5 If the information displayed is correct, click Continue.
- 6 In the Windows NT Server Security Role screen, select Server, then click Continue.
Result: The Licensing Mode window is displayed.
- 7 Choose Per Server as the licensing mode, enter the number for the maximum concurrent connections, then click Continue.
- 8 In the License Agreement window, click the checkbox "I agree that..." and click OK to continue.
- 9 In the Computer Name window, enter the name for this computer, as supplied by the customer, then click Continue.
- 10 In the verification window, review the name you entered and click Continue if it is correct.
- 11 In the Language window, choose English [United States], then click Continue.

Step Action

- 12 At the Setup Windows NT screen, check the following:
- Set up Only Windows Components You Select
 - Set up Network
 - Set up Applications on the Hard Drive(s)
- Ensure that Setup Printers is *unchecked*, then click Continue.
- Result:** You are prompted to choose Optional Windows Components to install.
- 13 In the Optional Windows Components to install screen, check only Accessories.
- Ensure that the following are *unchecked*:
- Readme Files
 - Games
 - Screen Savers
 - Wallpapers, Misc
- Click Continue.
- Result:** Windows NT proceeds to Network Configuration.
-

What's next?

Install network adapter software.

Installing network adapter software

Before configuring the network adapters, make sure that the adapters are inserted properly into the slots and the RJ45 cables are plugged into the adapter and a functioning hub. The following instructions apply to installing the 3Com Ethernet card. To install other cards, refer to “Installing additional network adapter cards” on page 5-34.

To continue the installation process, follow these steps.

Starting Point: The Network Adapter Card window of the Add Network Adapter screen

Step Action

-
1	On the Network Adapter Card Detection screen, click Do Not Detect. Note: This bypasses the automatic installation of network card software from the CD-ROM, ensuring that the correct versions of the CLAN card drivers are loaded from the supplied driver disks.
2	Click Continue to select the network card manually.
3	In the Network Adapter Card list on the Add Network Adapter dialog, scroll down through the list and select <Other> Requires disk from manufacturer, then click Continue.
4	Insert the floppy disk containing the Windows NT NDIS drivers for the CLAN card. The disk is shipped with the CLAN card.
5	Type the path for the software on the floppy disk, then click Continue.
6	On the Select OEM Option dialog, select the CLAN driver for the model of card installed, then click OK. Result: You are prompted to insert the Symposium Call Center Server Operating System CD-ROM.
-

LAN usage	PCI slot location	PCI bus number	PCI device ID on bus	IRQ
Customer (CLAN)	PCI slot 3	0	C (12)	5
Embedded (ELAN)	PCI slot 7	0	D (13)	9

Step Action

- 7 Insert the Symposium Call Center Server Operating System CD-ROM in the CD-ROM drive, then click OK.
Result: You may be prompted to insert another network adapter driver disk, and click OK or Continue.
You may see a message box informing you that the network card driver was successfully installed.
Note: You may be prompted by the network card software to test the network cards. Consult the documentation that accompanies your card for the card-specific steps you require to continue this procedure.
You are prompted to select the network protocols to install.
- 8 Check
 - TCP/IP Transport
 - NetBEUI Transportand click Continue.
- 9 In the Windows NT TCP/IP Installation Options screen, check the following items:
 - Connectivity Utilities
 - SNMP Service
 - TCP/IP Network Printing Support
 - Simple TCP/IP Servicesthen click Continue.

Step Action

- 10 In the SNMP Service Configuration screen, click OK to accept the default (blank) settings.

Result: The Network Settings dialog is displayed.

What's next?

Install additional network adapter cards.

**Installing
additional network
adapter cards**

To continue the installation process, follow these steps.



Caution: You should perform this procedure for new Windows NT installations only.

Step Action

- 1 In the Network Settings screen, choose Add Adapter to add the device driver software for the additional card.
- 2 In the Network Adapter Card window of the Add Network Adapter screen, choose the down arrow icon, scroll through the list, and select Other (requires disk from manufacturer).
- 3 Insert the floppy disk (shipped with the network card) containing the appropriate network adapter software for the additional card.

Note: The CLAN card is installed first.

If the CLAN card was previously installed (for example, if there is a valid entry for [1] in the Installed Adapter Cards window), then you are now adding the driver for the ELAN card, which will show as [2] in the window once installed.

- 4 Press Continue.
- 5 Enter the path for the software on floppy disk.
Note: The path for the software on the floppy disk is usually a:\.
- 6 Press Continue.

Step Action

- 7 Select the appropriate description for the card you are using.
Example: When you install the Madge Token Ring driver, select the device driver titled "Madge Smart 16/4 PCI Ringnode (BM)," since we are using Bus Master type cards.
Note: This platform supports a number of cards. Contact your Nortel dealer for a list of these cards.
- 8 Select OK.
Result: If the ELAN card is the same type as the previously installed CLAN card, the following message may be displayed:
A network card of this type is already installed in the system. Do you want to continue?
- 9 Select OK.
-

What's next?

Configure TCP/IP initially.

Configuring TCP/IP initially

To continue the installation with TCP/IP configuration, follow these steps.

Starting Point: The Network Settings window

Step Action

-
1	In the Installed Network Software window, select TCP/IP Protocol. Result: The TCP/IP Configuration screen appears.
2	Select adapter [1], and enter the IP Address, Subnet Mask, and Default Gateway for the Customer LAN (CLAN) connection.
3	Select adapter [2], and enter the IP Address, Subnet Mask, and Default Gateway for the Embedded LAN (ELAN) connection. Result: Two adapter cards are displayed in the lower left corner of the Networks window.
4	Click OK to continue.
-

What's next?

Set the domain and work groups.

Setting domain and work groups

To continue installing Windows NT, follow these steps.

Step Action

-
1	Select the workgroup option.
2	Type Workgroup in the Workgroup box.
3	Click OK. Result: The Administrator Account Setup window appears.
4	Enter the password and the confirm password.
5	Click Continue. Result: The Local Account Setup window appears.

Step Action

- 6 Click Cancel.
Result: A dialog box appears with the message No local account will be setup.
- 7 Click OK.
Result: The Virtual Memory window appears.
- 8 Click Continue.
-

What's next?

Set up the MS-DOS Editor.

Setting up the MS-DOS Editor

To set up the MS-DOS Editor, follow these steps.

Step Action

- 1 In the Set Up Applications window, select Search Now.
a. When Setup asks for the application name for C:\DOS\EDIT.COM, select None of the Above, then select Continue.
b. When Setup prompts for the application name for D:\WINNT35\system32\EDIT.COM, select MS-DOS Editor, then click Continue.
- 2 Select Continue in the Setup Applications window.
-

What's next?

Set the time zone.

Setting the time zone

To set the time zone for this installation, follow these steps.

Starting Point: The Date/Time window

Step Action

- 1 From the Time Zones pull-down list, select the time zone that applies to the site.

Step Action

- 2 Click the checkbox beside Automatically adjust for daylight savings time.
- 3 In the Date field, enter the current data using the arrow keys.
- 4 Select the current time by clicking the up and down arrows to the right of the Time text field.
- 5 Click OK.

Result: The Detected Display window appears.

What's next? Set the display.

Setting the display The Display Settings window will appear after the time zone is set. To set display parameters for the monitor, follow these steps.

Step Action

- 1 Click OK.
Result: This verifies that the video adapter was detected.
 - 2 Click Test.
 - 3 Click OK to test the display.
Result: The screen is filled with various colors and patterns to test the screen settings.
 - 4 If the display settings are satisfactory, click Yes, then click OK to save the display parameters.
 - 5 Click OK to exit the Display Settings window.
A Saving Configuration window with a progress box is displayed on screen.
-

What's next? Create the emergency repair disk.

Creating the emergency repair disk

At the end of the Windows NT configuration sequence, the setup program will prompt you to make an emergency repair disk. This will save the configuration for this computer.

To prepare the emergency repair disk, follow these steps.

Step Action

- 1 Click Yes to indicate that you would like to create an emergency repair disk.
 - 2 Label a blank, formatted disk "Emergency Repair Disk."
 - 3 Open the top front panel of the server.
 - 4 Insert the disk labeled Emergency Repair Disk in the floppy disk drive.
 - 5 Click OK.
Result: The setup program will format the disk and copy the configuration information. A progress box displays the percentage of completion for both procedures.
 - 6 Remove the emergency repair disk from the floppy disk drive.
Result: The computer will reboot and start up Windows NT Server.
-

Attention: Nortel recommends that you prepare an emergency repair disk and reboot at the end of every step in the install process.

What's next?

Complete Windows NT installation.

Completing the Windows NT installation

To complete the Windows NT installation, follow these steps.

Step Action

-
1	Select Restart Computer in the dialog box to reboot the system. Result: The computer reboots and launches the Windows NT Server.
-

When the system reboots, the file system automatically converts from FAT to NTFS on the partition in which Windows NT was installed. A blue screen appears to indicate the results of the file system verification.

What's next?

The basic setup of Windows NT v3.51 is complete. To ensure that the server is ready for application software, see Section D, "Configuring Windows NT."

Section D: **Configuring Windows NT**

In this section

Overview of configuring Windows NT	5-42
Network installation	5-45
Adding the modem and RAS service	5-47
Installing tape drive device drivers	5-49
Formatting additional hard drives	5-51
Reinstalling network drivers (including RAS)	5-54
Configuring TCP/IP	5-57
Optimizing the binding order	5-59
Configuring NetBIOS	5-63
Updating the emergency repair disk	5-64
Completing system configuration	5-65
Maintaining a RAID system	5-67
Performing a sanity check	5-68

Overview of configuring Windows NT

Purpose

This section contains procedures for configuring the server using the Windows NT setup program. The procedures include the following:

- configuring the network boards in the server
- adding the modem and RAS service
- installing tape drive device drivers
- formatting additional hard drives
- reinstalling network drivers (including Remote Access Service [RAS])
- configuring TCP/IP
- optimizing the binding order
- configuring NetBIOS
- updating the emergency repair disk

The server is shipped with Windows NT pre-installed. You can use these procedures either when you first receive the server, or after installing Windows NT following the procedures in the previous sections of this chapter.

What you will need You will need the following:

- the Symposium Call Center Server Operating System CD-ROM
- the Nortel Symposium Call Center Server Operating System Setup disks (3)
- a blank floppy disk for the NT emergency recovery disk
- the ELAN IP information
- the CLAN IP information
- RAS IP information

Logging in for the first time To perform on-site installation, you must log in. To log in for the first time, follow these steps.

Starting Point: Start up to Windows NT 3.51 with Service Pack 5 installed. The Service Pack installs itself when you run the install program.

Step	Action

1	Log in as Administrator. Use the password supplied by manufacturing. Example: If manufacturing has not supplied an initial password, try the password abc123 .
2	Press Ctrl-Alt-Del. Result: The system allows you to change the administrator password.
3	Select Change Password.
4	Enter the Old Password, and press Tab.
5	Enter the new password, and press Tab. Note: It is recommended that you create a complex password using a minimum of nine alphanumeric characters.
6	Enter the new password a second time for confirmation.
7	Select OK.
8	Select Cancel. Result: The system exits the Windows NT Security window and returns to the Program Manager.
-

Changing computer name and workgroup

To change a computer name and workgroup, follow these steps.

Starting Point: The Main program group

Step	Action

1	Double-click the Control Panel icon.

Step Action

- 2 Double-click the Networks icon.
Result: The Networks Settings window appears.
 - 3 Select the Change button next to the Workgroup Name.
 - 4 Change the Workgroup name for the local site.
Note: The server must not belong to a Domain.
 - 5 Select OK to continue.
 - 6 Select the Change button next to the Computer Name.
Change the Machine Specific Computer Name for the local site.
 - 7 Select OK to continue.
-

Network installation

Purpose Follow these procedures to install the network and set up a new CLAN adapter card in the server.

Setting up a CLAN adapter card To set up the CLAN network adapter card, follow these steps.

Step	Action

1	Open the Main program group, then Control Panel, then double-click Network.
2	Continue from step 1 in "Installing network adapter software" on page 5-32.

Verifying network adapter driver installation

Occasionally, the wrong network adapter driver is installed. For example, an incorrect driver may have been installed if Autodetect was selected during the installation process.

To verify the network adapter driver installation, follow these steps.

Step	Action

1	Open the Main program group, then Control Panel, then the Network control panel. Result: The Network Settings dialog appears.
2	Ensure that the correct driver is installed. a. Check the Installed Adapter Cards window to see if the driver description matches the installed card(s). b. If the Network Adapter card drivers were incorrectly installed, select the adapter(s), then click Remove. c. Reinstall the correct driver.
3	Ensure that the cable type is correct. The cable should be a shielded twisted pair with an RJ45 termination.

Step Action

4	If the CLAN uses TCP/IP, try to ping another machine on the CLAN. If you cannot ping another machine, try reinstalling the network card driver.
-

What's next?

Add the modem and RAS service.

Adding the modem and RAS service

Purpose	Follow this procedure to add the modem and Remote Access Service (RAS) for remote support of the server.																
Installing remote access service software	To install remote access server software, see “Installing remote access service software” on page 5-55. Note: The remote access server software must be installed before the Windows NT Service Pack upgrade is applied by the SysOps Installation software.																
Reconfiguring the RAS modem	To reconfigure the RAS modem, follow these steps. Starting Point: The Main Program group <table><tr><th>Step</th><th>Action</th></tr><tr><td>1</td><td>Attach the modem to COM1 and turn it on.</td></tr><tr><td>2</td><td>From the Control Panel, double-click Network. Result: The Network Settings screen appears.</td></tr><tr><td>3</td><td>If installing RAS, click Add Software. Result: The Add Network Software window appears.</td></tr><tr><td>4</td><td>Select Remote Access Service, then click Continue.</td></tr><tr><td>5</td><td>If prompted, insert the Windows NT Server CD-ROM, and click Continue.</td></tr><tr><td>6</td><td>Select Configure.</td></tr><tr><td>7</td><td>If a Port/Device/Type description line exists for COM1, select it and click Configure. Result: The Configure Port screen appears.</td></tr></table>	Step	Action	1	Attach the modem to COM1 and turn it on.	2	From the Control Panel, double-click Network. Result: The Network Settings screen appears.	3	If installing RAS, click Add Software. Result: The Add Network Software window appears.	4	Select Remote Access Service, then click Continue.	5	If prompted, insert the Windows NT Server CD-ROM, and click Continue.	6	Select Configure.	7	If a Port/Device/Type description line exists for COM1, select it and click Configure. Result: The Configure Port screen appears.
Step	Action																
1	Attach the modem to COM1 and turn it on.																
2	From the Control Panel, double-click Network. Result: The Network Settings screen appears.																
3	If installing RAS, click Add Software. Result: The Add Network Software window appears.																
4	Select Remote Access Service, then click Continue.																
5	If prompted, insert the Windows NT Server CD-ROM, and click Continue.																
6	Select Configure.																
7	If a Port/Device/Type description line exists for COM1, select it and click Configure. Result: The Configure Port screen appears.																

Step	Action
8	If no Port/Device/Type description line exists: a. If no Port/Device/Type description line exists, click Add. b. Select COM 1 in the port window. c. Click OK. d. Select Cancel to manually select the modem. Result: The Configure Port screen appears.
9	Select the appropriate modem description in the Attached Device window.
10	Ensure that the button for Receive calls only is selected in the Port Usage frame. Note: No other button should be selected.
11	Select OK.
12	Click Configure for NETBEUI. Result: The RAS Server NETBEUI Configuration window appears.
13	Select This Computer Only, and click OK. Result: The Network Configuration screen appears.
14	Select Configure TCP/IP. Result: The RAS Server TCP/IP Configuration window appears.
15	Select This Computer Only.
16	Click Use Static Address Pool.
17	Change the Begin Range and the End Range to the values you obtained from the LAN administrator.
18	Click OK. Result: The Network Configuration screen appears.

What's next?

Install tape drive device drivers.

Installing tape drive device drivers

Purpose

Tape drives are used in the 1001t Server to perform system and database backups. Follow the procedure in this section to install tape drive device drivers.

Installing tape drive device drivers

To install tape device drivers, follow these steps.

Starting Point: 1001t Server that has MS-DOS and Windows NT Server v3.51 installed. The Windows NT login prompt should be on the screen.

Step	Action

1	Press Ctrl+Alt+Delete at the same time to log in to Windows NT. Result: The Windows NT login box is displayed.
2	Log in to Windows NT using the following ID and password: UserID: Administrator Password: abc123 Result: The Program Manager is displayed.
3	Open the Main program group. Result: The Main program icons are shown.
4	Double-click the Windows NT Setup icon. Result: The Windows NT Setup dialog box is displayed.
5	Under the Options menu, select Add/Remove Tape Devices... Result: The Tape Device Setup dialog is displayed.
6	Click Add... Result: You are prompted to select the device driver you would like to install.

Step	Action
7	Select the 4-millimeter DAT drive tape device driver from the drop-down list. Note: If you are not using a DAT drive: a. Insert the device drive disk provided by the manufacturer. b. Enter A: as the path to the driver. c. Click Continue.
8	Click Install to install the selected driver. Result: You are prompted for the full path to the device driver. Windows NT will automatically put the path to the Symposium Call Center Server Operating System CD-ROM.
9	Insert the Symposium Call Center Server Operating System CD-ROM in the CD-ROM drive and click Continue. Note: If you have a device driver disk for the tape drive, insert the disk in the floppy drive, enter A:\ as the path to the driver, then click Continue. Result: Files are copied to the system. You are returned to the Tape Device Setup dialog box, and the driver you installed should be listed.
10	Click Close to save these settings, and exit Windows NT Setup dialog box. Result: You are prompted that the changes will not take effect until the next system restart.
11	Click OK to close the message box, and restart the server to load the tape drive device driver.

What's next?

Format additional hard drives.

Formatting additional hard drives

Introduction

This procedure describes the process of formatting the remaining hard drives.

Formatting additional hard drives

To format additional hard drives, follow these steps.

Starting Point: A 1001t Server with MS-DOS and Windows NT installed. The Windows NT login prompt.

Step	Action
1	Press Ctrl+Alt+Delete at the same time. Result: The Windows NT login box is displayed.
2	Log in to Windows NT using the following ID and password: UserID: Administrator Password: [ask the customer's network administrator for the password] Result: The Program Manager is displayed.
3	Open the Administrative Tools program group. Result: The Administrative Tools program icons are shown.
4	Double-click the Disk Administrator icon. Result: Disk Administrator will notify you that this is the first time it has been run.
5	Click OK to acknowledge the message. Result: The Disk Administrator program may prompt you to accept that it will write a signature to each hard drive.

Step Action

- 6 Click Yes to each request.
Result: Disk Administrator will write a signature to all disks, then display the main program screen.
Note: Each SCSI disk (or RAID System Pack) will be represented on this screen. Each disk has a number (Disk 0, Disk 1, and so on.). You can observe that Disk 0 has 2 partitions: a 100 Mbyte FAT partition and an NTFS partition that uses the remainder of Disk 0 (about 1900 Mbytes).
Each of the remaining disks should be listed as Free Space.
- 7 Click Free Space on one of the remaining disks.
Result: Disk Administrator highlights the Free Space with a thick, black border.
- 8 Under the Partition menu, choose Create Extended...
Result: You are prompted for the size of the Extended Partition.
- 9 Enter the maximum size for the partition on the whole disk and click OK.
Result: The Extended Partition is created.
- 10 Click Free Space on the same disk again.
Result: The Free Space is highlighted with a thick, black border.
- 11 Under the Partition menu, choose Create...
Result: You are prompted for the size of the Logical Drive.
- 12 Enter the maximum size for the logical drive on the whole disk and click OK.
Result: The Logical Drive is created.
- 13 Under the Partition menu, choose Commit Changes Now...
Result: You are prompted to confirm your changes.
- 14 Click Yes to commit the changes to disk.
Result: You are prompted to update your Emergency Repair Disk.

Step Action

15	Click OK to proceed. Result: You are returned to the Disk Administrator program screen.
16	Select the newly created partition and, under the Tools menu, choose Format... Result: You are prompted to enter the formatting information.
17	Ensure that the File system is NTFS, and check the Quick Format box. Click OK to continue. Result: You are prompted to confirm the format.
18	Click Yes to proceed with the format. Result: Windows NT will format the disk. A message box will be displayed when the format is complete with the format summary information.
19	Click OK after viewing the disk format summary information. Result: You are returned to the Disk Administrator program screen.
20	Repeat steps 7 to 19 to format the remaining disks (or system packs) in the server platform.
-

What's next?

Reinstall network drivers (including RAS).

Reinstalling network drivers (including RAS)

Purpose Follow the procedures in this section to remove old network drivers and cards and reinstall them.

Removing old network drivers and cards To remove any network drivers or cards from your system, follow these steps.

Starting Point: The Program Manager window

Step	Action

1	In the Main window, double-click the Control Panel icon.
2	Double-click the Network icon. Result: The Network Settings window appears.
3	In the Installing Adapter Cards field, click the Adapter Name you want to remove.
4	Click Remove.
5	Click Yes.
6	Click OK.
7	At the prompt to reboot the system, select Yes.

Reinstalling network drivers and cards To reinstall any network drivers or cards to your system, follow these steps.

Starting Point: The Program Manager window

Step	Action

1	In the Main window, double-click the Control Panel icon.
2	Double-click the Network icon. Result: The Network Settings window appears.
3	Click the Add Adapter button.

Step Action

- 4 Select the down-arrow icon beside the Add Network Adapter field, and scroll through the list of Adapters.
 - 5 Select Other (requires disk from manufacturer).
 - 6 Insert the floppy disk that is shipped with the network card and contains the WinNT NDIS drivers for the CLAN card.
Note: The CLAN card is the 3Com card that was installed in the top PCI slot.
 - 7 Select Continue.
 - 8 Enter the path for the software on floppy disk, and press Continue.
 - 9 Select the 3Com driver, and select OK.
 - 10 At the prompt to reboot the system, select Yes.
-

Installing remote access service software

The RAS software must be added before the Windows NT Service Pack Upgrade applied by the Symposium Installation Software.

To continue the installation by adding the remote access service software (RAS) to the system, follow these steps.

Starting Point: The Network Settings window

Step Action

- 1 Select Add Software and Remote Access Service.
- 2 In the Add Port screen, select COM1, then press OK.
- 3 In the Remote Access Setup screen, select Cancel to avoid detecting the modem.
Note: A modem does not have to be attached to install this software.

Step	Action
4	Scroll through the Attached Device list in the Configure Port screen to select a modem, Example: Select US Robotics Sportster 28800 V34.
5	Select Receive calls from the Port Usage list.
6	Press OK. Result: The system returns to the Remote Access Setup screen.
7	Press Continue to configure the network settings.
8	In the RAS Server NetBEUI Configuration screen, select This computer only.
9	Press OK. Result: The system returns to the Remote Access Setup screen.
10	In the RAS Server TCP/IP Configuration screen, select Use Static Pool.
11	Input the initial range. Note: Ask your customer LAN representative for two IP addresses that specify a range. These IP addresses reside on the CLAN subnet instead of on the ELAN subnet.
12	Ensure that the following is selected: This computer only.
13	Press OK. Result: The system returns to the Remote Access Setup screen.
14	Press Continue.
15	In the Network Settings window, press OK. Result: The system "binds" all network protocol software by setting the direction from one lower layer to the next, and presents a screen to fill in TCP/IP configuration.

What's next?

Configure TCP/IP.

Configuring TCP/IP

Introduction

Follow this procedure to set up the TCP/IP configuration for the network cards.

Configuring TCP/IP for the first network adapter card

To configure TCP/IP for the first network adapter card, follow these steps.

Starting Point: Network Settings screen (Main → Control Panel → Network)

Step	Action
1	Double-click TCP/IP protocol. Result: The Configuration screen is displayed.
2	Select the appropriate adapter card from the scroll box: • If you are configuring a new system, choose the adapter card with IP address 1.1.1.1 • If you are configuring an existing system, choose the adapter card with the your ELAN IP address
3	Enter the IP Address, Subnet Mask, and Default Gateway for the embedded LAN (ELAN) connection.
4	Click OK after verifying information.

Configuring TCP/IP for the second network adapter card

If the CLAN uses TCP/IP, configure TCP/IP for the second network adapter card. Follow these steps.

Note: If the CLAN does not use TCP/IP, omit this procedure and contact the LAN administrator for information about configuration requirements.

Starting Point: Network Settings screen

Step Action

-
1	Double-click TCP/IP protocol. Result: The Configuration screen is displayed.
2	Select the appropriate adapter card from the scroll box: • If you are configuring a new system, choose the adapter card with IP address 2.2.2.2 • If you are configuring an existing system, choose the adapter card with the CLAN IP address
3	Enter the IP Address, Subnet Mask, and Default Gateway for the Customer LAN (CLAN) connection.
4	Click OK after verifying information.
-



Caution: To avoid system problems, ensure that the ELAN and CLAN are configured on separate and isolated subnets.

What's next?

Optimize the binding order.

Optimizing the binding order

Introduction

Network protocols, like TCP/IP, are bound to adapters. Optimizing the binding order enables you to specify which protocol the operating system should use to transmit or receive data. The operating system tries the first protocol and, if the connection is not successful, tries the next protocol. When you optimize the binding order of the adapters in your system, you achieve the best performance from the LAN configuration you are using.

Optimizing the binding order

To optimize the binding order, follow these steps.

Note: In order to optimize the bindings, you must know which LAN adapter number is the ELAN adapter and which is the CLAN adapter.

Starting Point: The Network window

Step	Action

1	Choose Main → Control Panel → Network.
2	Click Bindings.
3	In the "Show bindings for" field, select Server.

Step Action

- 4 Look at the type and the adapter number to verify that the order of the adapters is correct.

The bindings should be in the following order:

- TCP/IP on CLAN
- TCP/IP on ELAN
- TCP/IP on RAS
- NetBEUI on CLAN
- NetBEUI on ELAN
- NetBEUI on RAS

Example: The bindings as displayed should look like the following:

Server -> TCP/IP -> <Driver> -> <CLAN Network Adapter>

Server -> TCP/IP -> <Driver> -> <ELAN Network Adapter>

Server -> TCP/IP -> <WAN Remote Access Wrapper>

Server -> NetBEUI -> <Driver> -> <CLAN Network Adapter>

Server -> NetBEUI -> <Driver> -> <ELAN Network Adapter>

Server -> NetBEUI -> <WAN Remote Access Wrapper>

Note: The driver, CLAN, and ELAN Network adapter names will vary on the server depending on the type of LAN card installed in the server.

- 5 If the bindings as displayed do not match the list above, change the order until they match. To move one of the bindings up or down, select it and then click the up or down arrow button.

Note: You may have more than one RAS connection. If there are more than one, put all RAS connections using the same protocol together (that is, all TCP/IP RAS connections, and all NetBEUI RAS connections).

Step Action

- 6 Once the bindings match for the server component, repeat steps 3 to 5 for each of the following items in the Show Bindings For list:

- Workstation
- NetBEUI Protocol
- NETBIOS Protocol
- TCP/IP Protocol

The correct bindings for each are shown below.

- Workstation

Workstation -> TCP/IP -> <Driver> -> <CLAN NetWork Adapter>

Workstation -> TCP/IP -> <Driver> -> <ELAN NetWork Adapter>

Workstation -> TCP/IP -> <WAN Remote Access Wrapper>

Workstation -> NetBEUI -> <Driver> -> <CLAN NetWork Adapter>

Workstation -> NetBEUI -> <Driver> -> <ELAN NetWork Adapter>

Workstation -> NetBEUI -> <WAN Remote Access Wrapper>

- NetBEUI Protocol

NetBEUI Protocol -> <Driver> -> <CLAN Network Adapter>

NetBEUI Protocol -> <Driver> -> <ELAN Network Adapter>

NetBEUI Protocol -> <WAN Remote Access Wrapper>

Step Action

- TCP/IP Protocol

NetBEUI Protocol -> <Driver> -> <CLAN Network Adapter>

NetBEUI Protocol -> <Driver> -> <ELAN Network Adapter>

NetBEUI Protocol -> <WAN Remote Access Wrapper>

- NetBIOS Interface

NetBIOS Interface -> TCP/IP -> <Driver> -> <CLAN Network Adapter>

NetBIOS Interface -> TCP/IP -> <Driver> -> <ELAN Network Adapter>

NetBIOS Interface -> TCP/IP -> <WAN Remote Access Wrapper>

NetBIOS Interface -> NetBEUI -> CLAN -> <Driver> -> <CLAN Network Adapter>

NetBIOS Interface -> NetBEUI -> ELAN -> <Driver> -> <ELAN Network Adapter>

NetBIOS Interface -> NetBEUI -> <WAN Remote Access Wrap

7 Click Close.

8 Click Restart Now.

What's next?

Configure NetBIOS.

Configuring NetBIOS

Purpose

To ensure that the server software works properly, you must configure the LANA numbers for each network route in the Net BIOS interface. The LANA numbers for the network driver for the adapter on the CLAN should be 0. Configure each of the network routes on the server. The ordering should be the same as the binding order shown in “Configuring TCP/IP” on page 5-57.

Type of route	Definition
NetBT	NetBIOS over TCP/IP
Nbf	NetBIOS over NetBEUI

Configuring NetBIOS

To configure NetBIOS, follow these steps.

Starting Point: The Control Panel in MS Windows

Step	Action

1	Double-click the Network icon. Result: The Network Settings dialog appears.
2	Double-click the NetBIOS Interface in the Installed Network Software section.
3	Select the CLAN's network route from the Network Route drop-down list. If you are using TCP/IP for the CLAN, select NetBT, then CLAN driver and CLAN adapter.
4	Set the LANA number to 0.
5	Repeat this procedure for the remaining network route types. Note: Increment the LANA number and follow the same order as the binding order.
-

What's next?

Update the emergency repair disk.

Updating the emergency repair disk

Purpose

The emergency repair disk should be updated when new device drivers are installed and changes in the registry are made.

Updating the emergency repair disk

To update the emergency repair disk, follow these steps.

Starting Point: A Windows NT command prompt

Step	Action

1	Run rdisk .
2	Select Update Repair Info. Result: A warning indicates that previous repair information will be deleted.
3	Select Yes. Result: The system prompts you to create an emergency repair disk.
4	Select Yes.
5	Place the emergency repair floppy disk in the floppy disk drive, and select OK.
6	Select Exit when the operation is complete.
7	Remove the disk, and update the label with the date.

What's next?

Complete the system configuration.

Completing system configuration

Introduction

To complete the system configuration, install all of the required DAC960 drivers, services, and utility software (systems with RAID), and change the configuration settings. The installation of the server software is finished once the system configuration is completed.

Before you begin

The following items are required:

- the Drivers disk supplied in the Symposium Call Center Server operating system disks and CD-ROM
- the SCU floppy disk

Completing the system configuration

To complete the system configuration, follow these steps.

Starting Point: At a DOS command prompt, after the server software is installed

Step	Action

Note: Steps 1 to 3 apply only to systems with RAID.

1	Insert the DAC960 utilities disk in Drive A:.
2	Type the following at the command prompt. Press Enter after typing each line.

a:

cd lnt

copy dacadm.exe d:\winnt35\system32

copy dacmon.exe d:\winnt35\system32

**srvccfg dacmon dac960Monitor
d:\winnt35\system32\dacmon.exe**

Result: The system registers the DAC960 monitor service.

Step	Action
3	Remove the DAC960 utilities disk.
4	Remove the Drivers disk and insert the SCU floppy disk.
5	Restart the server. Result: The Start-up menu appears.
6	Type 1 (Execute AMISCU). Result: The AMISCU start-up screen appears.
7	Press any key to continue.
8	Press Enter twice to continue.
9	Use the arrow keys to select Change Configuration Settings, then press Enter.
10	Enter the Administration password when requested. Note: If this is the first time you have run the SCU and BIOS and have never entered a password or performed a password clear through a jumper, you are asked for a new password. Nortel recommends that you do not enter a password.
11	Press Esc to bypass the password entry.
12	If a screen message indicates that the CFG file has been changed, press Enter.
13	Press Esc to return to the main menu.
14	Select Save Configuration from the menu, then press Enter.
15	Select Exit from the menu, then press Enter.
16	Press F10.

Maintaining a RAID system

- Purpose** Faults in the RAID system are indicated by an event in the System Event Log if dacmon.exe is running.
- Using MS-DOS** The DACCFG utility can be used from within the MS-DOS 6.20 environment to administer, diagnose, and reconfigure the RAID system. This utility is installed on the hard drive(s) when the server software is installed. It can also be run from the bootable DAC960 floppy disk.
- Using Windows NT** The DACADM utility can be used from within the Windows NT environment to administer the RAID system online. If one drive of a RAID pair becomes faulty, the DACADM utility enables a manual recovery operation *from the remaining drive*. To run the utility, type DACADM from the command line.
- The Disk Administrator utility can still be used to partition or format drives from within Windows NT, but each physical drive is mirrored with the one below it.
- Attention:** Do not enable the Fault Tolerance Feature provided by Windows NT.
- Using PCDIAGS** PCDIAGS 3.48B (or higher) can detect and allow testing of the RAID controller hardware and cables when run from the PCDIAGS floppy disk. This version is available as a spare part from the distributor.

Performing a sanity check

Purpose

This procedure provides two quick sanity checks to ensure that the network is accessible to the server.

Performing the first sanity check with ping

To perform the sanity check on network connectivity, follow this step.

Starting Point: The client computer

Step	Action

1	From the Program Manager, select the MS-DOS command prompt.

Result: The MS-DOS window opens.

2	At the prompt, type ping <IP address> .

Note: The server must be pinged by IP address and not by name. To retrieve the IP address, type **ipconfig**.

Result: The system should indicate a successful ping.

Performing the second sanity check

To perform the second sanity check, follow these steps.

Step	Action

1	From the Program Manager, select the MS-DOS command prompt.

Result: The MS-DOS window opens.

2	Type ping and enter the switch IP address, then press Enter.

Result: The screen should indicate a successful ping.

3	Type ping and enter the client IP address, then press Enter.

Result: The screen should indicate a successful ping.

Chapter 6

Backing up and restoring data

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Overview

Introduction

This chapter provides procedures for backing up and restoring data. These procedures are intended for advanced users.

Section A, “Backing up data,” explains how to schedule and perform backups. It also explains how to view backup status and how to cancel a backup.

Section B, “Restoring data,” gives procedures for restoring a Symposium Call Center Server database. It also describes how to declare a tape drive. This section also explains how to restore data from full and partial backups.

Section C, “Recovering from a hardware failure,” describes the steps required to restore the 1001t Server after a catastrophic hardware failure has occurred.

Section D, “Using the NBTape utility,” describes the NBTape utility and how to use it.

Section A: **Backing up data**

In this section

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Overview of backing up data

Introduction

The Symposium Call Center Server Backup Scheduler allows you to set a time for backing up system files. This feature is accessed from the client only. You must log in as an administrator or with administrative privileges to perform a system backup.

Backup allows you to recover from a catastrophic failure in the storage subsystem of the server. Backup is not intended to restore individual pieces of information or files that were deleted by accident.

Backup is available for the server only. To back up the Client, you must provide separate software and hardware.



Caution: There is no prescheduled default backup in the system. You should schedule backups after any install or backups should be scheduled once all system hardware and software is installed. Nortel recommends performing a full backup at least once a week and a partial backup every day on a rotating tape basis.

Backup types

Backup procedures are dependent on the type of backup required. Use the following table to choose a backup procedure.

Note: The approximate speed of the backup depends on the load on the system. These speeds are guidelines only.

Backup type	Definition	Result	Approximate speed of backup
Full backup	All files on server are backed up to tape.	Off-line operation: All Symposium Call Center Server services are disabled while the backup executes.	• 3.0 to 4.0 Gbytes/hour with a 4 mm DAT drive • 4.0 Gbytes/hour with a Tandberg QIC-13 drive
Partial backup: Database	Backs up to tape all information stored in the Symposium Call Center Server database.	On-line operation: Call processing continues as the backup executes. No Symposium Call Center Server services are stopped.	• 3.0 Gbytes/hour with a 4 mm DAT drive • 6 Gbytes/hour with a Tandberg QIC-13 drive
Partial backup: File	Backs up all files specified by the application at installation.		• 3.0 Gbytes/hour with a 4 mm DAT drive with no load, or 1.0 Gbytes/hour with a maximum load • 6.0 Gbytes/hour with a Tandberg QIC-13 drive

Note: The call center is down (offline with no call processing) during a full backup, but it is online during a partial backup. Nortel recommends performing both partial and full backups during the least busy time in the call center.

Definition:
Full backup

A full backup copies all files on the hard drive to the backup drive. Files that are in use at the time of the backup are not included.

The full backup procedure requires you to take your system offline. All call processing is disabled while the backup

executes, and all Symposium Call Center Server services are halted.

The amount of time required to perform a backup depends on the amount of hard drive space on the server.

Why you use a full backup

Do a full backup to store a complete set of system data in the event of a catastrophic failure in the disk subsystem of the server. Restoring the server from a full backup returns the server to its state when the backup was created.

When to use a full backup

Nortel recommends that you perform a full system backup after any installation, upgrade, or major modification when the system is already offline. You can later restore a full working version of the system without having to reinstall from scratch.

Definition: Partial backup

A partial backup copies a preconfigured set of files and a copy of the Windows NT registry for a partial file backup or the databases for a database backup to the backup drive.

Definition: Database backup

A database backup copies all information to tape that is stored in the Symposium Call Center Server database.

Database backup is an online operation that allows call processing to continue as the backup operates. No Symposium Call Center Server services are disabled.

The length of time required to perform a backup depends on the amount of hard drive space allocated to the database and the level of server activity while the backup is running. Database backups place an extra load on the database because the backup software must read data when calls are processed. Nortel recommends running backups during off-peak hours when there is little or no system activity.

Why you use a database backup

A database backup provides a copy of all transient information required to restore the system in the event of a system failure. These backups also have less impact on the system than a full backup because there is no downtime.

When to use a database backup

Nortel recommends performing a daily database backup. If the system is equipped with a mirrored RAID system, recovery from a single disk failure does not require a tape backup. However, you should continue to perform daily backups.

**Definition:
File backup**

The file backup creates a copy of all files specified by the application at installation. Any files in use at the time of the backup are skipped.

When to use a file backup

The file backup option is provided by Nortel but never used: no files are specified by the application for backup. Use of the function is not recommended currently, although the backup is provided for future requirements of the Symposium Call Center Server product.

**Scheduling
flexibility**

Schedule backups to run at the same time every day, week, or month, or schedule a backup to run only once.



Caution: There is no prescheduled default backup in the system. Schedule backups after any install, or once all system hardware and software is installed. Nortel recommends performing a full backup at least once a week and a partial backup every day on a rotating tape basis.

Backup tapes

Dedicated tapes for backup types

Use backup tapes for one type of backup only, whether or not extra space is available on the tape. Dedicate separate tapes for full, database, and file backups.



Warning: After a partial database backup, the tape is not ejected from the tape drive. Rotate tapes after *each* backup to avoid overwriting data.

Tape rotation

Rotate tapes daily and store them at an off-site location. Do not keep a tape in the tape drive for more than one or two days for the following reasons:

1. Any backup overwrites existing data on the tape. If the same tape is used for several consecutive nightly backups and the tape becomes damaged, no other backup is available to restore lost data.
2. Consistent reuse of the same tape accelerates wear on the tape. Tapes may need replacement earlier than their normal lifespan of 2000 uses.

Nortel recommends storing backup tapes offsite for as long as possible before reusing them. You should store tapes for at least two weeks.

Restoring data or system settings

Several procedures are available for restoring data files or system settings from a backup. To restore data or settings in the Symposium Call Center Server, use the following guideline to choose the required procedure.

To	Perform
fully restore the database	Full Database Restore
restore selected data files	Partial Database Restore

To	Perform
fully restore the Symposium Call Center Server from a defined hardware failure	Full System Restore

Head-cleaning kit Nortel recommends purchasing a head-cleaning tape to prolong the life of your tape heads and ensure the quality of your backups. Clean tape drives based on how often they are used.

Tape cartridges used per day	1	2	3	4 or more
Cleaning interval	Weekly	Every other day	Every other day	Daily

Most cleaning kits suggest how often heads should be cleaned.

Backing up system data

Purpose	The following procedures describe how to schedule a full system backup, or a partial file or database backup.
Requirements	To perform a system backup procedure, you must do the following: • Log in as a system administrator. • Enter data in the fields labeled Tag, Owner, and Customer ID. If you do not enter this data, the backup schedule will not run. • Close the Server Performance Monitor application, supplied by Windows NT. The time required to complete the backup operation may be substantially increased if this application is running.
Daily maintenance and database backups	Be aware that delays are often encountered if a database backup is scheduled at the same time as the daily maintenance process. Daily maintenance is done on the server at midnight to consolidate statistics. The database backup is placed on hold until the maintenance process is completed. This lasts up to a few hours depending on the system configuration. There is no impact on the system or backup if it is delayed. The event is also logged in the backup log file.
Log files	Log files, generated during the backup procedure, provide useful information. The last five log files are kept on the 1001t Server. The current log file contains the number 1.

The log files, which are generated on the 1001t Server, are shown in this table. The <n> in the log file name represents a number.

Type of log file	Name of log file
Full backup log file	D:\Nortel\SysOps\backup\FullBkp<n>.log
Partial backup log file	D:\Nortel\SysOps\backup\PartBkp<n>.log
Database backup log file	D:\Nortel\SysOps\backup\DB_Bkp<n>.log

Scheduling a full backup

Purpose

To ensure that your system information can be restored after a system failure, schedule full backups as frequently as possible.

Attention: Full backups are an offline operation. The system must be offline for the duration of the backup. The system restarts when the backup is complete.

Since the full backup is an offline operation, the system is not able to process calls for the duration of the backup. Before beginning the backup, disconnect any clients who are connected to the server.

We recommend that a full backup be run after major system changes, such as

- installation of new software
- upgrades of software
- addition of new hardware

Requirements

Have three tapes available for a full backup. However, depending on the size of your database, all three tapes are not always needed.

Scheduling a full backup

To schedule a full backup, follow these steps.

Starting Point: The Symposium Server System window (on the client PC)

Step	Action

1	Ensure that the write-protect tabs are removed from the backup tapes.

Step Action

2 Label your backup tapes with the following information:

- backup date and time
- backup type
- backup files
- name of person who performs the backup

3 Ensure that you insert the tape properly into the drive.



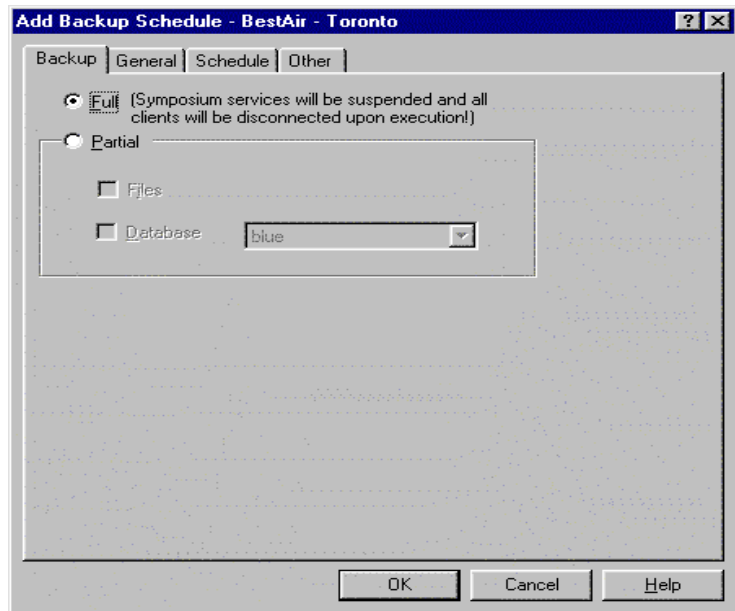
Warning: If you insert the tape incorrectly, you run the risk of damaging your system.

4 From the Symposium Server System window, select the Utilities drop-down menu.

5 Select the Add Backup Schedule.

Result: The Backup Schedule property page appears with the Backup window displayed.

Step Action



6 Click the Full button.

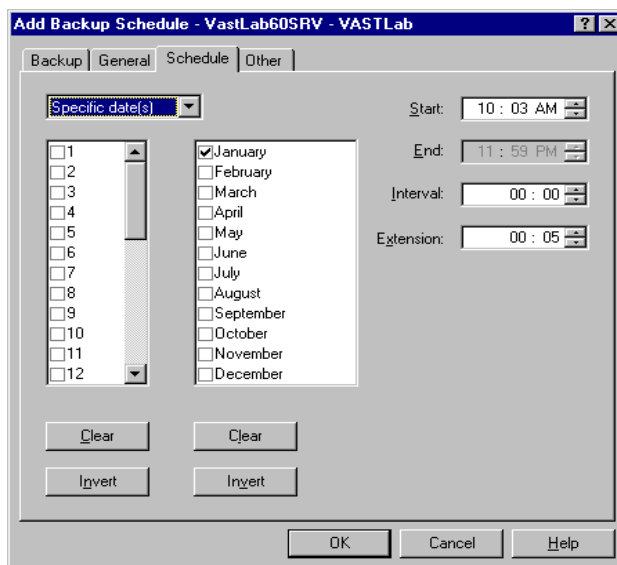
7 Click the General tab.

Result: The General property page appears.

Step Action

The screenshot shows a Windows-style dialog box titled "Add Backup Schedule - BestAir - Toronto". It has four tabs: "Backup", "General", "Schedule", and "Other". The "Schedule" tab is currently selected. Inside the dialog, there are several input fields. At the top is the "Host Name:" field, which is empty. Below it is a section titled "Ownership" containing three fields: "Tag:" (empty), "Owner:" (empty), and "Customer ID:" (containing the number "1"). To the right of the "Ownership" section is another section titled "Submission" containing two fields: "Date:" (containing "Tuesday, March 07, 2000") and "Time:" (containing "1:41:04 PM"). At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

- 8 In the Host Name field, type the name of the server to run the backup.
Note: This field is not case-sensitive.
- 9 In the Tag field, enter a name for the backup set.
Note: This should be a descriptive name. For example, a weekly backup should have "weekly" as part of the name.
- 10 In the Owner field, enter the user ID that you used to log on to the Symposium Call Center Server (or the backup will not work).
- 11 Click the Schedule tab.
Result: The Schedule property page appears.

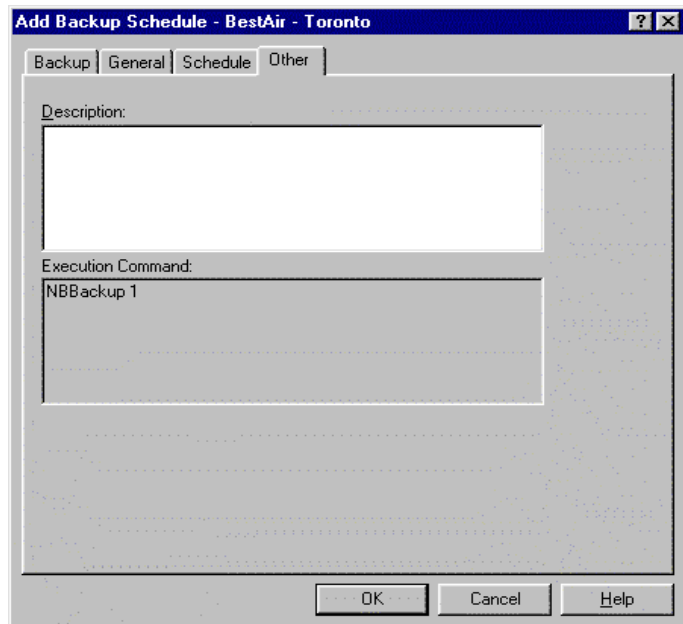
Step Action

- 12 In the Start field, select the time to start the backup.
Note: The backup is scheduled according to the server time, which is not necessarily the same as the Client PC time.
- 13 In the End field, type the end time for the backup or leave the default.
- 14 In the Interval field, type an interval for the backup or leave the default.
 The interval is the amount of time the system should wait before attempting the backup again. If the backup cannot start at the scheduled time.
- 15 In the Extension field, type an extension time or leave the default.
 The extension is the period of time in which the system will retry (at the specified intervals, see above) the backup if it cannot begin on time.

Step Action

- 16 From the drop-down menu, select the frequency to indicate how often the backup should be done.
- 17 Choose the month and day of the backup.
Note: The system does not allow you to start an immediate backup procedure.
- 18 Click the Other tab.

Result: The Other property page appears.

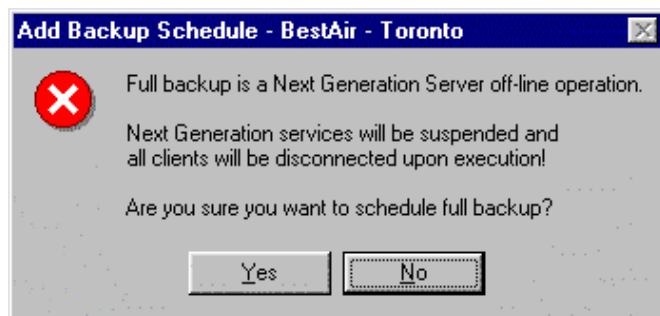


- 19 In the Description field, type the description or the purpose of the backup.

Step Action

- 20 Click OK.

Result: A window appears displaying a warning.



- 21 Click Yes to schedule the backup.

Result: The Backup settings are saved as a scheduled event.

Scheduling a partial backup

Purpose

To ensure that you can recover your system after a system failure, schedule a partial database backup to run as frequently as possible.

Nortel recommends that a database backup be run daily. The partial database backup is an online operation which does not stop call processing on the system. However, because of the additional load placed on the system, run the backup at off-peak hours, when the system load is low.

Requirements

Have three tapes available for a partial backup.

Scheduling a partial backup

To schedule a partial backup, follow these steps.

Starting Point: The Symposium Server System window (on the client PC)

Step Action

- 1 Ensure the write-protect tabs are removed from the backup tapes.
- 2 Label your backup tapes with the following information:
 - backup date and time
 - backup type
 - backup files
 - name of person who performs the backup
- 3 Ensure that you insert the tape into the drive properly.



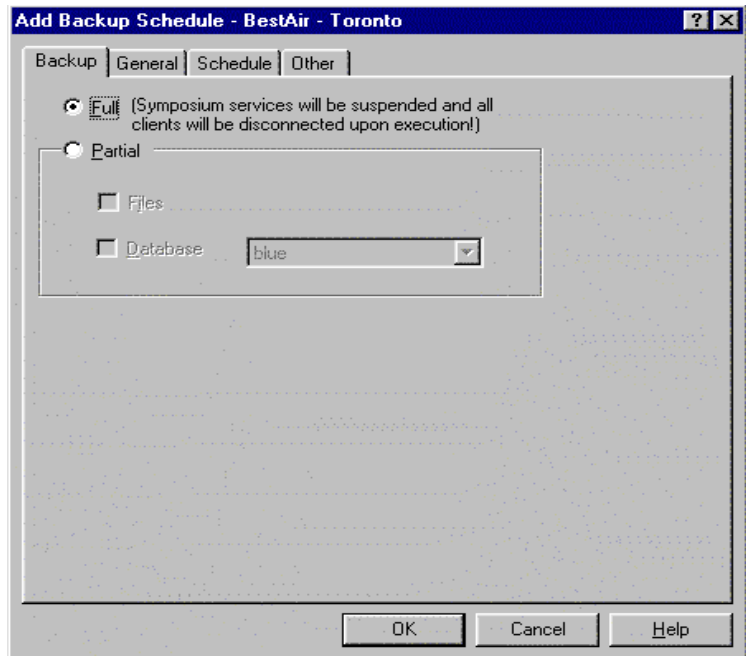
Caution: If you insert the tape incorrectly, you run the risk of jamming your system and bringing down the Call Center system.

- 4 From the Symposium Server System window, select the Utilities drop-down menu.

Step Action

- 5 Select Add Backup Schedule.

Result: The Add Backup Schedule property page appears with the Backup property page displayed.



- 6 Click the Partial button.
- 7 Check the Database box and select a database from the drop-down list.

Note: Currently, all databases must be backed up in order to ensure data consistency across the databases. As a result, all databases are backed up regardless of which database is selected from the drop-down list.

Step Action

- 8 Click the General tab.

Result: The General property page appears.

The screenshot shows a Windows-style dialog box titled "Add Backup Schedule - BestAir - Toronto". It has four tabs: "Backup", "General", "Schedule", and "Other", with "General" currently selected. The dialog is divided into two main sections. The left section, titled "Ownership", contains three text input fields: "Tag:" (empty), "Owner:" (empty), and "Customer ID:" (containing the number "1"). The right section, titled "Submission", contains two text input fields: "Date:" (containing "Tuesday, March 07, 2000") and "Time:" (containing "1:41:04 PM"). At the bottom right of the dialog are three buttons: "OK", "Cancel", and "Help".

- 9 In the Host Name field, type the name of the server to run the backup.

Note: This field is not case-sensitive.

- 10 In the Owner field, enter the user ID that you used to log on to the Symposium Call Center Server (or the backup will not work).

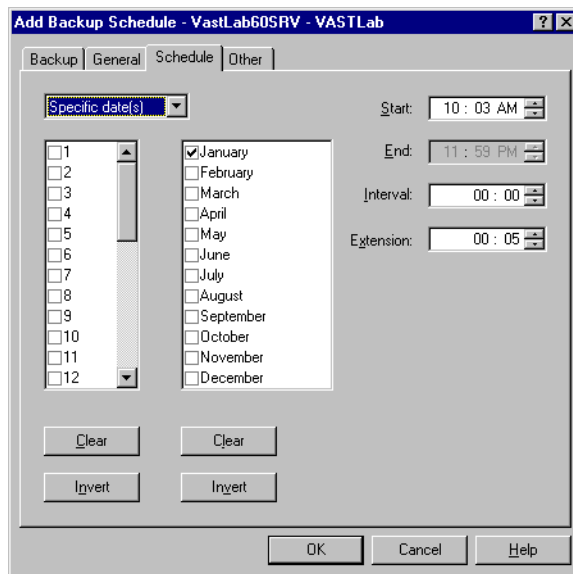
- 11 In the Tag field, enter a name for the backup set.

Note: Enter a descriptive name. For example, a weekly backup should have "weekly" as part of the name.

Step Action

- 12 Click the Schedule tab.

Result: The Schedule property page appears.



- 13 In the Start field, select the time to start the backup.
Note: The backup is scheduled according to the server time, which is not necessarily the same as the Client PC time.
- 14 In the End field, type the end time for the backup or leave the default.
- 15 In the Interval field, type an interval for the backup or leave the default.
 The interval is the amount of time the system should wait before attempting the backup again, if the backup cannot start at the scheduled time.

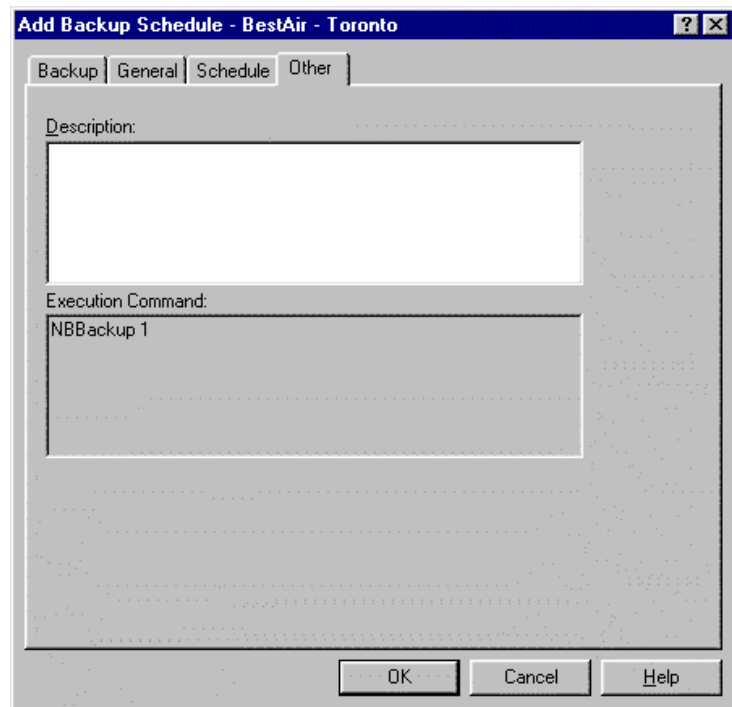
Step Action

- 16 In the Extension field, type an extension time or leave the default.
The extension is the period of time in which the system will retry (at the specified intervals, see above) the backup if it cannot begin on time.
- 17 From the drop-down menu, select the frequency to indicate how often the backup should be done.
- 18 Choose the month and day of the backup.
Note: The system does not allow you to start an immediate backup procedure.

Step Action

- 19 Click the Other tab.

Result: The Other window appears.



- 20 In the Description field, type the description or the purpose of the backup.

- 21 Click OK.

Result: The Backup settings are saved as a scheduled event.

Viewing the backup status

Purpose Follow this procedure to view the status of a backup. The status may be in progress, complete, or inactive. It also indicates whether an error was produced.

Backup status information The backup status includes the following information:

- the current status of a backup in progress or the status of the last completed backup
- the last message from the backup server
- the percentage completed of a backup in progress (100% for a completed backup). The progress information is not available for a database backup. It does, however, work for a partial file backup.
- the type of backup that has been scheduled
- the TCP/IP address of the server to which the backup status application is connected

Viewing the backup status To view the backup status information, follow these steps.

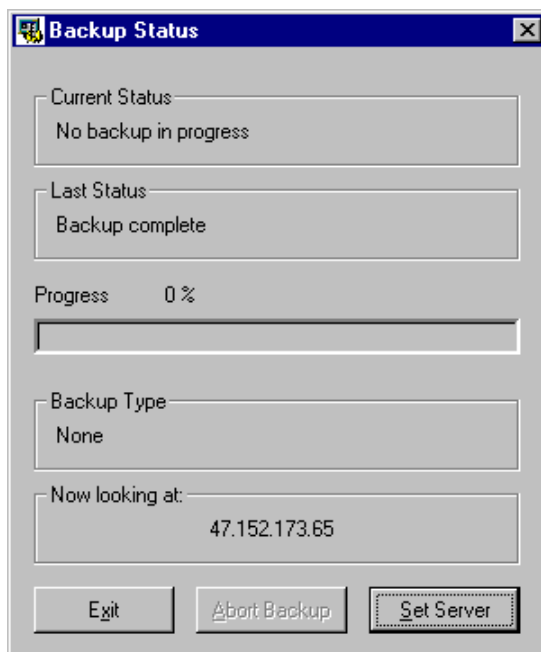
Starting Point: The Symposium Server System window (on the client PC)

Step	Action

1	Double-click System Administration.
2	Click the Backup Status icon.

Result: The Backup Status window appears.

Step Action



3 View the Status and Progress fields.

4 Click Exit.

Viewing the backup status if the client is not running

To view the backup status information when the client is not running, follow these steps.

Starting Point: The Symposium Server System window (on the client PC)

Step Action

1 In Windows Explorer, navigate to the \nortel\client\en\bin folder (directory).

Step Action

- 2 Locate the backstat.exe file, and double-click it.
Result: The Backup Status window appears.
 - 3 Click the Set Server button.
Result: The IP address window appears.
 - 4 Key in the IP address of the server containing the backup status you want to view.
 - 5 Click OK.
Result: The status of that server is displayed on the Backup Status window.
 - 6 Click Exit.
-

Canceling a backup

Purpose

After checking on a backup, you may choose to cancel it. Only the full backup can be canceled.

Attention: Data cannot be recovered from a tape that contains a canceled backup.

Canceling a backup

To cancel a backup, follow these steps.

Starting Point: The Symposium Server System window (on the client PC)

Step	Action
1	Double-click System Administration.
2	Click the Backup Status icon. Result: The Backup Status window appears.
3	Click Abort Backup.
4	Click Exit.

Section B: **Restoring data**

In this section

Overview of restoring data	6-30
Restoring the Symposium Call Center Server database	6-31
Declaring a tape drive	6-33
Restoring data from a full backup	6-34
Restoring data from a partial file backup	6-37

Overview of restoring data

Introduction This section provides instructions for restoring a Symposium Call Center Server data, and for declaring a tape drive.

Restoring from hardware failures If you experience a hardware failure, refer to Section C, “Recovering from a hardware failure.”

Restoring the Symposium Call Center Server database

Purpose Use the Symposium Call Center Server database restore to replace lost or corrupt data in the system.

The restore process causes the connection between the client PC and 1001t Server to be lost, and the services on the 1001t Server to be shut down. After the restore process is finished, reconnect the client PC and restart the services.

The window As the restore progresses, the status information is displayed in the Status group box. A pop-up dialog asks you to insert a tape and reboot the system after the restore process is complete.

Attention: After a major system failure, you must rebuild the system from a full backup using the steps described in “Restoring data from a full backup” on page 6-34. After the full backup is restored, you must restore the database using the steps described below. You cannot reinstall the Symposium Call Center Server and then do a database restore in the event of a major system failure.

Restoring a call center database To restore the call center database, follow these steps.

Starting Point: Windows NT Program manager

Step	Action

1	Place the tape with the last database backup in the tape drive.
2	Run Database Restore from the Sysops Utilities Group. Result: The Database Restore dialog box appears.
3	Click the Start Restore button. Result: A dialog box appears asking that you ensure that the database backup tape is in the drive.

Step Action

- 4 Ensure that the tape is in the drive and click OK.

Result: The restore process begins.

Note: Errors that occur during the restore are displayed in the Status group box and logged into c:\sysops\autores.log.

The Database Restoration Complete message appears once the operation is complete.

- 5 Click Done and reboot the server.

- 6 Reconnect the client PC to the server.
-

Declaring a tape drive

Purpose To restore data from a full backup or a partial file backup, you must have a functional tape drive declared using the Windows NT Setup.

Declaring a tape drive To declare a tape drive in Windows NT, follow these steps.

Starting Point: The Windows NT Program Manager

Step	Action

1	Double-click the Main menu.
2	Double-click the Windows NT Setup icon.
3	Select the Add/Remove Tape Devices option from the Options menu. Result: The Tape Device Setup window appears.
4	Click the Add button.
5	Select the appropriate drive from the Device window.
6	Click the Install button. Result: You will be prompted to enter the full path to the Windows NT Tape Device files. This will require the original Windows NT CD-ROM.
7	Enter the path and click the Continue button. Result: The system asks to reboot the system.
8	Click Reboot Now.
-

Restoring data from a full backup

Purpose Follow the procedure in this section to restore data from a full backup.

Note: You must have backup operator or administrator privileges to initiate this restore procedure. You must also ensure that the 1001t Server is offline before beginning the restore.

System details reset If you are restoring from a full backup, details such as network addresses, drivers, and services are reset during the full restore.

Minimum system requirements for full restore The following criteria must be met for a full restore to run successfully:

- basic installation of Windows NT
For more information, refer to see Chapter 5, “Performing software maintenance.”
- a functional tape drive declared using the Windows NT Setup, under Main in the Program Manager
For more information, refer to “Declaring a tape drive” on page 6-33.

Restoring a database from a full backup To restore a database from a full backup, follow these steps.

Starting Point: The Windows NT Program Manager

Step	Action
1	Select the Administrative Tools icon.
2	Select the Backup icon.

Step Action

- 3 Double-click the minimized Tapes window in the main Backup window.
Result: The Tapes window appears, indicating that there is no tape currently in the drive.
- 4 Insert your full backup tape in the drive.
Result: As the tape loads, the following message appears in the Tapes window: The tape drive is busy.
Note: Once the tape has loaded, the tape icon is labeled with the date of the backup tape.
- 5 Select Catalog from the Operations menu in the Backup window to display the entire catalog of the loaded tape.
Result: The Catalog Status dialog box appears as the catalog loads.
Note: After the catalog has been loaded, all of the data sets on the tape are displayed in the Tapes window. There should be a folder represented for each local hard drive in the system.
- 6 Select the tape name, and click the checkbox beside the tape icon to restore the data.
Result: Each folder icon in the Tapes menu should now be checked.
- 7 Click the Restore button on the toolbar of the main Backup window.
Result: The Restore Information window appears, showing the data set for drive C.
- 8 Select the Verify After Restore option to verify the files after restore.
Note: This operation doubles the time for the restore.
- 9 Move the slider on the scroll bar down until the data set for drive D is displayed.
- 10 Select the Restore Local Registry and Restore File Permissions options.

Step Action

- 11 Click OK to start the restore.

Result: The Restore Status window displays as the restore begins.

Note: Once the restore begins, the Confirm File Replace dialog box appears to prompt you to overwrite the first file in the data set for drive C:. If files exist on the other drives, the dialog box will reappear to prompt you to overwrite the first files in these drives.

- 12 Select Yes to All in the Confirm File Replace dialog box for all drive files.

Result: If you elected to verify files in step 8, the Verify Status window appears.

- 13 Exit the backup program once verification is complete.

- 14 Restart the server to complete the operation.
-

Restoring data from a partial file backup

Purpose	Use the following procedure to restore from a partial file backup.
System requirements for database restore	The following criteria must be met for a partial or database restoration to run successfully: • Restore from a full backup with a valid Symposium Call Center Server installed, although a full backup is not always required. • Have a functional tape drive declared using the Windows NT Setup, under Main in the Program Manager. For more information, refer to “Declaring a tape drive” on page 6-33.

If hardware corruption occurs, you must perform a full restore.

Restoring data from a partial database	To restore data from a partial file backup, follow these steps. Starting Point: The Windows NT Program Manager

Step	Action

1	Select the Administrative Tools icon.
2	Select the Backup icon.
3	Double-click the minimized Tapes window in the main Backup window. Result: The Tapes window appears, indicating that there is no tape currently in the drive.
4	Insert your partial backup tape in the drive. Result: As the tape loads, the following message appears in the Tapes window: The tape drive is busy. Note: Once the tape has loaded, the tape icon is labeled with the date of the backup tape.

Step Action

- 5 Select Catalog from the Operations menu in the Backup window to display the entire catalog of the loaded tape.
Result: The Catalog Status dialog box appears as the catalog loads.
After the catalog has been loaded, all of the data sets on the tape are displayed in the Tapes window. A folder should be represented for each local hard drive in the system.
- 6 Select the tape name, and click the checkbox beside the Tape icon to restore the data. Each Folder icon in the Tapes menu should now be checked.
- 7 Click the Restore button on the toolbar of the main Backup window.
Result: The Restore Information window appears, showing the data set for drive C.
- 8 Select the Verify After Restore option if you wish to verify the files after restore.
Note: This operation doubles the time for the restore.
- 9 Move the slider on the scroll bar down until the data set for drive D is displayed.
- 10 Select the Restore Local Registry and Restore File Permissions options.
- 11 Click OK to start the restore.
Result: The Restore Status window displays as the restore begins.
Once the restore begins, you are prompted through the Confirm File Replace dialog box to overwrite the first file in the data set for drive C.
- 12 Select Yes To All in the Confirm File Replace dialog box for both the C: and D: drive files.
Result: A dialog box appears indicating that the machine will have to be restarted before the files will be updated. If you elected to verify files, the Verify Status window appears.

Step Action

- 13 Open the File Manager and look in the D:\Nortel\backup directory.

Note: This directory contains a hierarchy of directories reflecting the original position of any files explicitly specified to be backed up in the partial file backup data file. The files in these directories need to be moved to their original location in the system.

Example: If you restored the file located at c:\directoryA\directoryB\program.txt the restored version of the file would be saved in the following path:

D:\Nortel\backup directory\c:\directoryA\ directoryB\program.txt

After the restore, move c:\directoryA\directoryB\program.txt back to its original location on the system.

- 14 Exit the backup program once verification is complete.
- 15 Restart the server to complete the operation.
-

Section C: **Recovering from a hardware failure**

In this section

Overview of recovering from a hardware failure	6-42
Recovering a system using a full backup	6-45
Recovering servers with RAID controllers	6-61
Restoring to a similar server	6-65

Overview of recovering from a hardware failure

Introduction

The procedures in this section provide instructions for recovering a system from a catastrophic system failure due to a component failure (for example, a hard drive failure or data corruption).

Hardware configuration requirements

In order to have a successful restoration from backup tape, the server must have the same hardware configuration (hard drives, disk size, LAN cards, and so on) as the original backup. The following procedures require advanced technical knowledge in Windows NT. In all cases, please read all instructions before proceeding.

Attention: In the event of a major system failure, you cannot simply reinstall the Symposium Call Center Server and then do a database restore. First, you must rebuild the system from a full backup. After the system is fully restored, restore the database using the procedure “Restoring a call center database” on page 6-31.

Which procedures to use

Based on the configuration of the server and the type of failure, the procedures for recovering the system are different. The following tables outline the types of failures and the procedure(s) you must follow to recover the system.

Systems without RAID controllers

If you experience the following type of failure	Then follow this procedure
Primary or secondary hard drive or File system (NTFS) corruption	• “Recovering a system using a full backup” on page 6-45 • “Restoring to a similar server” on page 6-65 (This procedure is only required if the server being restored to is a replacement server that has the same configuration [number of hard drives, LAN cards] but not necessarily the same make or vintage of components). • “Restoring a call center database” on page 6-31
Database corruption	• “Restoring a call center database” on page 6-31

Systems with RAID controllers

If you experience the following type of failure	Then follow this procedure
Primary or secondary hard drive	• “Recovering servers with RAID controllers” on page 6-61
Database corruption	• “Restoring a call center database” on page 6-31
File system (NTFS) corruption	• “Recovering a system using a full backup” on page 6-45 • “Restoring to a similar server” on page 6-65 (This procedure is only required if the server being restored to is a replacement server that has the same configuration [number of hard drives, LAN cards] but not necessarily the same make or vintage of components). • “Restoring a call center database” on page 6-31

Symposium Call Center Server software release versions

The database backup tape must be created from the same software release as that of the full backup. If any Symposium Call Center Server upgrades have been performed on the server since the time the full backup was made, the upgrades must be reapplied after the restore from full backup is complete (and before you restore the database).

Requirements

To restore a system from backup, you need the following tools and materials:

- replacement hot-swap hard drive (Ensure that the drive has the same or greater capacity as the drive being replaced.)
- Phillips screwdriver (#2 bit)
- full backup tape of the server
- latest database backup tape of the server
- head cleaning tape (appropriate one for the tape drive)

Note: The database backup tape must be created on the same software release that the server is running.

- Symposium Call Center Server Operating System CD-ROM
- Nortel Symposium Call Center Server Operating System Setup disks (3)
- MS-DOS 6.20 Install disks (3)
- Symposium Call Center Server Application CD-ROM
- tape drive driver disks
- LAN adapters driver disks

Recovering a system using a full backup

Purpose Follow these procedures to recover the server to the state it was in when the last full backup was made.

Procedures to follow There are several procedures that you must follow to recover the Symposium Call Center System. Complete these procedures in the following order:

1. “Installing on a new hard drive” on page 6-45
2. “Installing the operating system in a temporary directory” on page 6-46
3. “Entering the server information” on page 6-49
4. “Configuring the operating system” on page 6-51
5. “Cleaning the tape drive” on page 6-52
6. “Restoring the server from a full backup tape” on page 6-53
7. “Copying ntbackup file” on page 6-54
8. “Reassigning drive letters” on page 6-55

Installing on a new hard drive Before you can restore your server onto a new hard drive, you must follow these steps.

Step	Action

1	Create a partition on the new hard drive, following the procedure “Creating the MS-DOS partition” on page 5-22.
2	Format the partition, following the procedure “Formatting the MS-DOS partition” on page 5-24.
3	Install MS-DOS on the partition, following the procedure “Installing MS-DOS on the active partition” on page 5-25.

What's next?

Install the operating system into a temporary directory.

Installing the operating system in a temporary directory

To install the operating system in a temporary directory, follow these steps.

Step Action

- 1 Insert the disk labeled Nortel Symposium Call Center Server Operating System Setup Disk 1 of 3 into drive A.
- 2 Start up the system.
Result: As the BIOS detects the computer's hardware, it displays messages; then the Windows NT Setup screen appears and displays a series of Setup is loading files... messages at the bottom of the screen.
- 3 When prompted, insert the disk labeled Nortel Symposium Call Center Server Operating System Setup Disk 2 of 3, and press Enter.
Result: A further series of Setup is loading files... messages appears at the bottom of the screen, then the Windows NT Server Setup screen appears.
- 4 Press Enter to set up Windows NT.
- 5 Press C to select Custom Setup.
- 6 Press S to specify the mass storage devices in the server.

Step Action

- 7 Select the appropriate devices:
 If the system uses a RAID controller, follow these steps.
- Select Other (requires disk provided by a hardware manufacturer).
 - Press Enter.
 - Put the DAC960 Windows NT SCSI Driver disk in the floppy drive and press Enter.
 - Select DAC960 NTSCSI Driver from the list of drivers and press Enter.
- If the system does not use a RAID controller, follow these steps.
- Select SymBIOS Logic PCI (53c8XX).
 - Press Enter.
- Result:** Setup displays a list of detected hardware.
- 8 Press Enter to continue.
- 9 Insert Nortel Symposium Call Center Server Operating System Setup Disk #3 when prompted, and press Enter.
- Result:** If setup detects that one or more of the hard drives in the system has more than 1024 cylinders, a warning message appears.
- 10 Press Enter to continue.
- Result:** You see the following message: Loading device driver (...)
- Windows NT determines which server devices are suitable to install Windows NT from, and displays the message:
- Setup has determined that your computer includes a CD-ROM drive as well as...3.5" floppy disk drives.
- You are prompted to select the medium from which to install Windows NT.
- 11 Insert the Installation CD-ROM into the CD-ROM drive.

Step Action

- 12 Press Enter to select To install Windows NT from CD-ROM.
Result: Setup displays the default Computer, Display, Keyboard, Keyboard Layout, and Pointing Device.
- 13 Make any required changes and then use the up/down arrow keys to select the option "The above list matches my computer" and press Enter to continue.
- 14 Delete all partitions except for the 100 Mbyte FAT C:\ partition in disk 0. To do so, follow these steps.
 - a. Use the arrow keys to select the partition to delete.
 - b. Press D to delete the partition.
 - c. The setup program will warn you that you will lose all of the data on the selected partition, press L to confirm that you really do want to delete it.
 - d. Repeat steps a to c as necessary until all extra partitions are deleted.
- 15 Create a new partition. To do so, follow these steps.
 - a. Use the arrow keys to select the unpartitioned space in disk 0 ID 0 (the same disk that has the 100MB C: FAT partition).
 - b. Enter C to create a new partition.
 - c. Press Enter to confirm the creation with the default (maximum) size.
- 16 Format the new partition. To do so, follow these steps.
 - a. Select the newly created partition in disk 0 (D:\) and press Enter.
 - b. Select Format the partition using the NTFS file system and press Enter.**Result:** Once the partition has been formatted, you are prompted to enter the directory where Windows NT should be installed.
- 17 Do not accept the default installation directory. Use the backspace key to delete the suggested directory, and type WIN_TMP as the directory.

Step Action

18 Press Enter.

Result: Setup asks if it should perform an exhaustive examination of the hard drives.

19 Press Enter.

Result: Setup performs an exhaustive secondary examination of the hard drives. This process takes approximately one minute to complete, depending on the disk configuration of the server.

20 When prompted, remove the driver disk from the disk drive and the CD-ROM from the CD-ROM drive, then press Enter to restart the system to continue the Windows NT Setup.

Result: The computer reboots and loads Windows NT 3.51.

What's next?

Enter the server information.

Entering the server information

To continue the Symposium Call Center Server Operating system installation, follow these steps.

Step Action

1 In the Windows NT Setup dialog, type **Nortel** for the name and **Northern Telecom** for the company, then click Continue.

2 Verify that the name and company are spelled correctly. If there is a mistake, click Change to change either of the values; otherwise, click Continue.

3 When prompted for the Product ID, type **000-0000** and click Continue.

4 Verify that the product ID is correct. If there is a mistake, click Change to change it; otherwise, click Continue.

5 In the Windows NT Server Security Role dialog, select Server as the security role, and click Continue.

Step Action

- 6 In the Choose Licensing Mode dialog, select Per Server as the licensing mode and enter 5 as the maximum number of concurrent connections, and click Continue.
- 7 In the Per Server Licensing dialog, check "I agree that:," and click OK.
- 8 In the Windows NT Setup dialog, type **TEMP_SRVR** as the computer name, and click Continue.
- 9 Verify that the computer name is correct. If there is a mistake, click Change to change it; otherwise, click Continue.
- 10 In the Language (Local) dialog, select English [United States] as the language, and click Continue.
- 11 In the Optional Windows Components dialog, deselect the following options:
 - Set Up Network
 - Set Up Printers
 - Set Up Applications on Hard Drive(s)Then click Continue.
- 12 In the Optional Windows Components dialog, deselect the following components:
 - Games
 - Screen Savers
 - Wallpapers, Misc...Then click Continue.

Result: Once the required files have been copied onto the system, the Administrator Account Setup dialog is displayed.
- 13 Type **abc123** for the password.
- 14 Confirm the password by entering the same password, and then click Continue.
- 15 Click Cancel in the Local Account Setup dialog to skip setting up any local accounts.

Step Action

- 16 Click OK when the Setup Message warning that no local account will be set up appears.
 - 17 In the Virtual Memory dialog, accept the default settings and click Continue.
 - 18 In Date/Time dialog, enter the date and time, and select your local time zone, then click OK.
 - 19 To set the video display mode, follow these steps.
 - a. In the Display Settings dialog, select OK to verify that the video adapter was detected. Set the desktop area to be 800X600 pixels by moving the Less/More slider bar.
 - b. Click Test to ensure that your monitor can display the selected resolution. When the Testing Mode dialog is displayed, click OK to test the selected graphics mode.
 - c. The Test bitmap with some text and colored boxes is displayed for approximately five seconds. Afterwards, the Testing Mode dialog box is displayed. If the screen looks OK, click Yes; otherwise, click No to return to the Display Settings dialog and select a lower resolution.
 - d. Click OK to save the settings that were just tested, then click OK again to continue the installation.
 - 20 In the Emergency Repair Disk dialog, select No to bypass the emergency disk creation.
 - 21 The server operating system is now installed. Remove the floppy disk from the A: drive (if there is a disk in the drive), and click Restart Computer.
-

What's next?

Configure the operating system.

Configuring the operating system

To configure the Symposium Call Center Server Operating System, follow these steps.

Step Action

- 1 Install the tape device driver. For detailed instructions, see "Installing tape drive device drivers" on page 5-49.
 - 2 Apply the operating system service pack. To do so, follow these steps.
 - a. With the Symposium Call Center Server Operating System CD-ROM in the CD-ROM drive, run File Manager.
 - b. Double-click the CD-ROM drive icon and navigate to the directory E:\SP5.
 - c. Execute the update.exe program to start installing the operating system service pack 5.
 - d. Once the setup starts, you will be warned that the system will be updated. Click OK to continue.
 - e. After all files have been updated, remove the Symposium Call Center Server Application CD-ROM from the CD-ROM drive and click Restart Computer to restart the server.
 - f. At the Welcome dialog, press Control-Alt-Delete and log on as **administrator**, using the password that was entered while installing the operating system (**abc123**).
 - 3 Format and configure any secondary hard drives. For detailed instructions, see "Formatting additional hard drives" on page 5-51.
-

What's next?

Clean the tape drive.

Cleaning the tape drive

Before you begin restoring any data from a backup tape, clean the tape drive using the appropriate head cleaning tape. Follow the instructions provided with the head cleaning tape.

What's next?

Restore the server from a full backup tape.

Restoring the server from a full backup tape

To restore the server from a full backup tape, follow these steps.

Step Action

- 1 In the Administrative Tools program group, double-click Backup.
- 2 Insert the full backup tape into the tape drive.
- 3 Restore the minimized Tapes window and wait until the tape drive has loaded the initial catalog from the tape (the initial catalog will only show the C: drive).
Note: The tapes window initially displays a message stating that there is no tape in the tape drive, even though there is a tape in the drive. The window automatically updates in approximately 30 seconds.
- 4 From the Backup Applications window, select Operation → Catalog to load all backup sets on the tape.
Result: When the backup sets have been loaded, an icon is shown in the right pane of the tapes windows for each drive that was backed up on the tape.
- 5 To restore all of the data from the backup tape, check the check box beside the tape icon in the left pane of the Tapes window.
- 6 From the Backup Applications window, select Operation → Restore.
Result: The Restore Information window appears. Each hard drive being restored is represented by a backup set (that is, drive C is backup set 1, drive D is backup set 2, drive F is backup set 3, and drive G is backup set 4). The Restore Information window currently shows backup set 1 (drive C).
- 7 Use the vertical slide bar on the right side of the window to go to backup set 2 (drive D).

Step Action

- 8 Select the following options:
 - Restore File Permissions (ensures that the files are restored with their original file permissions and access rights)
 - Restore Local Registry (ensures that the registry will automatically be restored as part of the D drive)
 - 9 For each remaining data set (excluding the C: drive), use the vertical slide bar to change to the next data set, and check Restore File Permissions.
 - 10 When the restore options have been set for all drives to be restored, click OK to begin the restore.
 - 11 For the first file on the system, the Confirm File Replace window appears. Click Yes to All to replace all existing files on any of the drives.
Note: For a 10 Gbyte system, the restore process takes approximately three hours to complete.
 - 12 When the restore is complete, Choose Operations → Exit to close the Backup Applications window.
 - 13 Remove the tape from the tape drive.
Note: It is normal for the tape to take up to 30 seconds to eject from the tape drive after the eject button is pressed.
-

What's next?

Copy the ntbackup file.

Copying ntbackup file

When the backup was run, the ntbackup program was in use, so it was not backed up. Therefore, you must manually copy the file from the temporary directory into the Windows NT system directory. To do so, follow these steps.

Step Action

- 1 From the Main program group, double-click Command Prompt to start a command interpreter.

Step Action

2	In the command prompt window type the following command: copy d:\win_tmp\system32\ntbackup.exe <space> d:\winnt35\system32\ then press Enter.
3	When the file has been copied, type the following command to close the command prompt window: Exit then press Enter.
4	Shut down and restart the server.
-

What's next?

Reassign drive letters.

Reassigning drive letters

Depending on which disk was changed in the system, the drive letter assignments may be incorrect after the restore. Follow the procedures in this section to do the following:

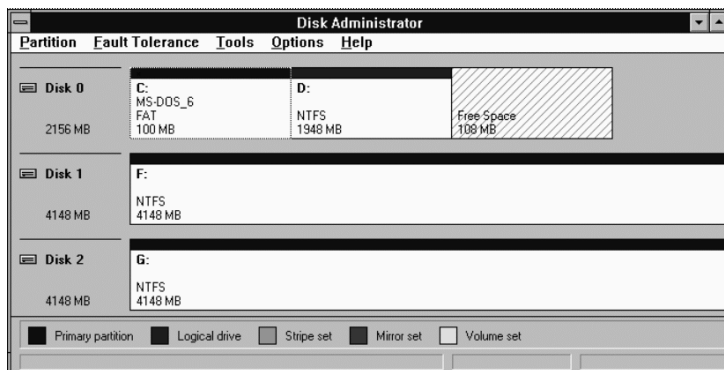
- Check the drive letter assignments to determine whether they are correct or need to be changed.
- Assign temporary drive letters.
- Reassign the original drive letters.

Checking drive letter assignments

To check the drive letter assignments, follow these steps.

Step Action

- 1 At the Windows NT Welcome dialog, press Control-Alt-Delete and log on as **NGenSys**, using the password **__ngen!**
Note: The system may be slow to respond as the Symposium Call Center Server Application attempts to start (for approximately 10 minutes); please be patient during this time.
- 2 From the Administrative Tools program group, double-click Disk Administrator.
- 3 If the Disk Administrator has never been run before, a message appears asking you to update the system configuration. Click OK.
- 4 When prompted, click OK to allow the signature to be written to disk. Repeat this step for each new disk in the system.
- 5 Check if the hard drives in the system have drive letter assignments that match the illustration below.



Note: Drive letter E should be assigned to the CD-ROM drive.

- 6 If the drive letter assignments match the illustration, you do not need to continue with the next procedures. Choose Partition → Exit to close the Disk Administrator.

Step Action

7	If the drive letter assignments do not match, continue with the following procedures.
-

What's next?

Assign temporary drive letters.

Assigning temporary drive letters

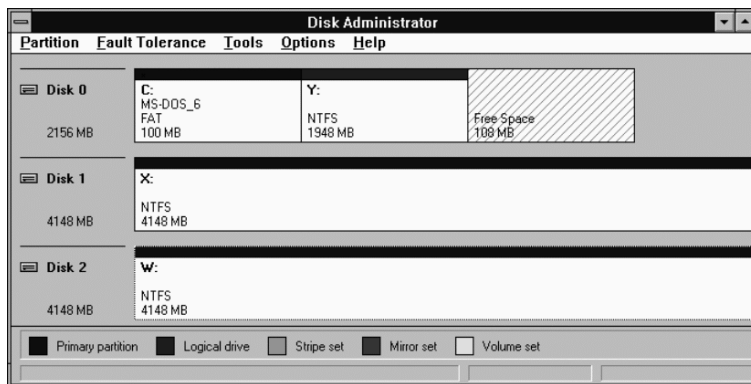
You cannot assign a drive letter to a hard drive if that letter is already in use. First, you must assign each hard drive a temporary drive letter. To do so, follow these steps.

Step Action

1	From the Administrative Tools program group, double-click Disk Administrator.
2	Choose Tools → Assign CD-ROM Drive Letters.
3	In the CD-ROM Drive Letters dialog, change the drive letter to the last available drive letter. For example, assign the letter Z.
4	Click Change.
5	Click Yes to confirm that the drive letter should be changed immediately.
6	Select the first partition to which you want to assign a temporary drive letter. (Start with the second partition on drive 0.) Note: Do not change the primary partition (C:\) drive letter.
7	Choose Tools → Drive Letter.
8	In the Assign Drive Letter dialog, change the drive letter to the last available drive letter, and click OK. Result: The Disk Administrator warns you that the drive cannot be locked for exclusive use (therefore, the drive letter cannot be changed immediately).
9	Click OK to continue.

Step Action

- 10 Click Yes to change the drive letter when the system is next restarted.
- 11 Repeat steps 6 to 10 for each remaining hard drive in the system.
- 12 When you change the drive letters on the remaining partitions, you are informed that the drive letters can be changed immediately. Click Yes to do so. This is because the partitions are not the primary partition (the one with the operating system installed on it).
- 13 The drive letters should now be similar to this illustration.



- 14 Choose Partition → Commit Changes Now... to save the drive letter assignments.
Result: A message appears warning you that you should update the emergency repair disk.
 - 15 Click OK to continue.
Result: The system alerts you that the server must now be restarted for the drive letters to be changed.
 - 16 Click OK to shut down and restart the server.
-

What's next?

Reassign the original drive letters.

Reassigning the original drive letters

To reassign the original drive letters, follow these steps.

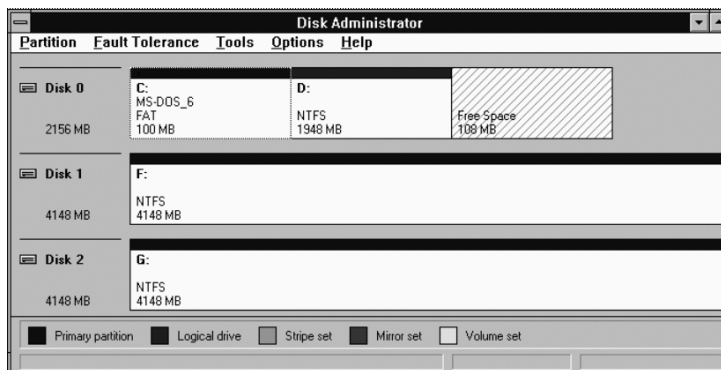
Step Action

- 1 At the Windows NT Welcome dialog, press Control-Alt-Delete and log on as **NGenSys**, using the password **__ngen!**
Note: The system may be slow to respond as the Symposium Call Center Server Application attempts to start (for approximately 10 minutes); please be patient during this time.
Result: A message is displayed warning you that the server is running with limited virtual memory (because no paging file exists).
- 2 Click OK.
Result: The System dialog appears.
- 3 Click Cancel to exit.
- 4 Remap the drive letters to their original assignments. To do so, repeat steps 2 to 12 in "Assigning temporary drive letters" on page 6-57.
Assign the drive letters as instructed in the following table.

Drive	Assign letter
CD-ROM	E
Disk 1	F
Disk 2	G

Step Action

- 5 When you are done, the drive letters should match this illustration.



- 6 Choose Partition → Commit Changes Now... to save the drive letter assignments.
Result: A message appears warning you that you should update the emergency repair disk.
- 7 Click OK to continue.
Result: The system alerts you that the server must now be restarted for the drive letters to be changed.
- 8 Click OK to shut down and restart the server.

Recovering servers with RAID controllers

Purpose Follow the procedures in this section to recover a server with a RAID controller.

RAID controllers On the 1001t Server platform, the hard drives are hot-swappable. When the RAID controller detects a fault, the faulty drive is powered down, and all reads and writes are directed to the mirror disk. The faulty drive is indicated by a yellow LED on the drive bay.

The RAID monitor program, called dacmon.exe, must be running. When RAID is running, the fault is also logged to the Windows NT event log under the application events. The system continues to function using the mirrored pair of the faulty disk until the faulty disk is replaced.

Before you begin Make sure the RAID monitor program is running when you perform these procedures.

Determining which drive had a disk failure To determine which drive had a disk failure, follow these steps.

Starting Point: Execute dacadm from a command line or through the file manager (d:\winnt35\system32\dacadm.exe).

Step	Action

1	In the RAID administrative program, select Configuration from the Main menu.
2	Select System Drive. Result: The System Drive Information window appears. To display a drive failure, one of the two drives shows a critical status.
3	Record the system drive number (between 0 and 2) of the system drive that shows critical status.

Step Action

- 4 Click OK.

Result: The system exits the System Drive Information window.

**Determining
which drive failed**

To continue the recovery from hard drive failure, follow these steps.

Starting Point: The RAID Administrative window

Step Action

- 1 In the Main menu, select Configuration, then Drive Information.

Result: The System Drive Information window appears. This window displays all SCSI buses and devices in the system.

Note: The legend for interpreting the window is as follows:

ONL online hard drive

DED dead (failed) hard drive

CD CD-ROM drive

TAP tape backup

- 2 Click the drive marked DED.

Result: A dialog box displays information about the drive.

- 3 Record the SCSI bus and SCSI ID of the drive.

Example: "Ch-1:Id-4" in the display refers to a drive on SCSI channel 1 with SCSI ID 4.

- 4 Click OK to exit the Information window.

- 5 Click OK to exit the System Drive Information window.
-

Replacing the faulty drive

To continue the recovery from hard drive failure, follow these steps.

Step Action

-
1	Remove the faulty drive from the drive array.
2	Ensure that the replacement disk is the same size or larger than the faulty disk.
3	Ensure that the replacement disk has the same SCSI ID as the faulty disk.
4	Insert the new drive into the drive array in the slot that held the old drive.
-

Rebuilding the new drive

To complete the recovery from hard drive failure, follow these steps.

Starting Point: Log in as Administrator in the RAID Administrative window.

Step Action

-
1	From the Main menu, select Management, then Rebuild Drive.
2	Select the drive marked DED in the Drive Selection window. Result: The system beeps several times as it starts up the new drive and prepares to rebuild the drive. The Rebuild Progress window appears to indicate that a rebuild is underway and to display the percentage of rebuild completion. Note: The system takes approximately 15 minutes to rebuild either a 2 Gbyte or a 4 Gbyte hard drive. Once the rebuild is complete, a dialog box appears to indicate the success of the rebuild procedure.
3	Click OK to continue.
4	Click OK to exit the Rebuild window.
5	Click OK to exit the Drive Selection window.

Step Action

6 From the System menu, select Close.

Result: The system exits the dacadm executable.

Restoring to a similar server

Purpose

If a motherboard or other non-field-replaceable unit of the server fails, a new server chassis is provided by Nortel. Depending on the nature of the failure, the system could come with new components that need new or different software drivers. When you restore from a full backup onto a system with new components, you must configure the new components once the restore is complete. Also, the drivers for the hardware they are replacing must be removed from the system.

The following table lists the major server components that may differ from the original server when a replacement is shipped. Additionally, the table specifies the procedure to follow, if any, to update the server's configuration to support the new components.

Component	Follow the procedure
Motherboard	None
Monitor	None
Keyboard	None
Mouse	None
LAN adapter	"Replacing LAN adapter drivers" on page 6-66
RAID card	None

Note: In the case of a motherboard failure, the replacement motherboard may be newer than the one being replaced. Each new release is tested to ensure that it is compatible with the restore procedures.

Replacing LAN adapter drivers

If any of the LAN adapter cards have been replaced, the old software driver may not work for the new card because the card may be a different brand. All servers have two LAN cards in them: one for the CLAN and one for the ELAN.

Note: All of the servers have an Ethernet LAN adapter built onto the motherboard that is made by Intel.

Determining whether a LAN card has changed

To determine whether a LAN card is different between the server that was backed up and the server that was restored to, follow these steps.

Step Action

- 1 Log in to the server as **NGenSys**, using the password **__ngen!**
- 2 Choose Administrative Tools → Event Viewer.
- 3 Choose Log → System.
- 4 Look for an event number 9006 from the Nbf source (make sure you only look in the portion of the log from the last time the server was restarted).
- 5 If the event is not listed, then the LAN adapters are working correctly, and there is no need to change any LAN adapter device drivers. Go to step 8.
- 6 If the event is listed in the log, then one or more of the LAN adapters failed to start.
Double-click the event to get the detailed event information. A message similar to the following appears:

```
Nbf could not find adapter \Device\<Adapter><Number>
```

where

 - <Adapter> indicates the type of adapter
 - <Number> is the adapter card number

Step Action

- 7 Write down the adapter string and the adapter number. The following list shows which device name is associated with each currently supported LAN adapter:
 - E100BIntel PCI PRO 10/100 Ethernet adapter
 - E190x3Com Etherlink XL PCI Ethernet adapter
 - 8 Exit from the Event Viewer application.
-

What's next?

Record the current LAN configuration.

Recording the current LAN configuration information

Follow this procedure if the server to which you restore data has different Ethernet cards. This procedure ensures that the cards are configured correctly after the restore.

To record the current LAN configuration information, follow these steps.

Starting Point: Log in as Administrator.

Step Action

- 1 Choose Main → Control Panel → Network.
- 2 Record the name of each type of adapter installed on the system.

Note: Adapter names are displayed in the Installed Adapter Cards list box.
- 3 In the Installed Network Software list box, select TCP/IP and click Configure.

Step Action

-
4	For each LAN adapter installed in the system, record the following information: • Enable Automatic DHCP Configuration • IP Address • Subnet Mask • Default Gateway • Primary WINS Server • Secondary WINS Server
5	Click DNS.
6	Record the following information: • Host Name • Domain Name • Domain Name Service Search Order • Domain Suffix Search Order
7	Click OK to exit from the DNS setup dialog.
8	Click Cancel.
9	Click Cancel to exit from the Network Configuration window.
-

What's next?

Remove the LAN adapters.

Removing LAN adapters

To remove the LAN adapters, follow these steps.

Starting Point: Log in as Administrator

Step Action

-
1	Choose Main → Control Panel → Network.
2	Select a LAN adapter that appears in the Installed Adapter Cards list box. Click Remove to remove the component from the system.

Result: The Network Settings window appears.

Step Action

- 3 In the Network Settings window, click Yes to confirm removal of the component from the system.
 - 4 Repeat steps 2 and 3 to remove all LAN cards that failed at startup.
 - 5 Click OK to exit the Network configuration application.
 - 6 Shut down and restart the server.
-

What's next?

Reinstall the LAN adapters.

Reinstalling the LAN adapters

Perform the following procedure to replace each of the LAN adapter cards that you removed in "Removing LAN adapters" on page 6-68. To add the LAN adapters back into the system, follow these steps.

Note: This procedure is correct for an ELAN configuration, but may not apply to a CLAN configuration.

Starting Point: Log in as Administrator

Step Action

- 1 Choose Main → Control Panel → Network.
- 2 In the Network Settings window, click Add Adapter.
- 3 In the Add Network Adapter dialog, select the driver that matches the adapter name recorded in "Recording the current LAN configuration information" on page 6-67.

Result: The system asks you to insert the disk in the floppy drive.

Step Action

- 4 If you are installing the Intel PCI PRO 10/100 Ethernet adapter, follow these steps.
- Insert the Intel EtherExpress Pro LAN Adapter Drivers Disk.
 - Click OK.
 - Select Intel 82557-based EtherExpress PRO Adapter from the list of drivers.
 - Click OK.
- Result:** The Intel ProSet utility adds the LAN card to the system.
- Click OK when the Intel PROSet window appears.
 - Repeat this procedure to add each LAN adapter card to the system.
- Result:** When another card is added, you are warned that adapters already exist on the system.
- 5 If you are installing the 3Com Etherlink XL PCI Ethernet adapter, follow these steps.
- Insert the 3Com Etherlink XL PCI drivers disk in the floppy drive.
 - Select Other (requires the disk from the manufacturer).
 - Click Continue.
 - At the Insert Disk window, click OK.
 - At the Select OEM option dialog, select 3Com Fast Etherlink/Etherlink XL PCI Busmaster NIC.
 - Click OK.
- Result:** A message states that the 3Com dRMON SmartAgent PC Software is installed.
- Click OK to continue.
- Result:** After installation, the 3Com NIC Diagnostics dialog appears.
- Click Close to continue without running the diagnostics.
- Note:** The diagnostics can be run after the software is installed if desired.
- 6 Once all LAN cards are added, click OK until you are returned to the Network Settings screen.

Step Action

7 Click OK.

Result: A status message indicates that the bindings have been updated.

What's next?

Configure TCP/IP.

Configuring TCP/IP

To configure TCP/IP, follow these steps.

Starting Point: Network Setting screen

Step Action

- 1 In the TCP/IP Configuration dialog, select the first adapter in the Adapter list and enter the information that you recorded in "Recording the current LAN configuration information" on page 6-67.
 - 2 Repeat step 1 for each adapter in the Adapter list.
 - 3 Click the DNS button.
 - 4 The DNS configuration dialog is displayed. If required, enter the information recorded earlier in "Recording the current LAN configuration information" on page 6-67.
 - 5 In the TCP/IP Configuration dialog, click OK.
 - 6 Click Don't Restart Now.
-

What's next?

Optimize the binding order for the LAN cards.

Optimizing the binding order

To optimize the binding order for the LAN adapter cards, refer to "Optimizing the binding order" on page 5-59.

What's next?

Recover the database. For detailed instructions, refer to "Restoring a call center database" on page 6-31.

***Section D:* Using the NBTape utility**

In this section

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Using the NBTape utility	6-75

Overview of using the NBTape utility

Introduction

The NBTape utility allows you to perform tape operations (for example, loading, formatting, and adjusting the tension of tapes).

One useful function is TPUNLOCK. The function ejects backup tapes if the eject tape mechanism becomes locked while the Symposium Call Center Server Backup/Restore feature is being used.

Using the NBTape utility

NBTape commands

The following commands are available within the NBTape utility.

Command	Explanation
TPFORMAT	Performs a low-level format of the tape. Currently, only the QIC117 device supports this feature.
TPLOAD	Loads the tape and moves the tape to the beginning.
TPLOCK	Locks the tape ejection mechanism so that the tape is not ejected accidentally.
TPTENSION	Adjusts the tape tension by moving the tape to the end and back to the beginning. This option is not supported in all devices. This value is ignored if it is not supported.
TPUNLOAD	Moves the tape to the beginning and removes it from the device. After a successful unload operation, the device returns errors to applications that attempt to access the tape.
TPUNLOCK	Unlocks the tape ejection mechanism.

Command syntax The syntax for the NBTape utility is as follows:

<command-name> [<tape-device-name>]

Using the NBTape utility

To use the NBTape utility to eject a backup tape, follow these steps.

Attention: This procedure should only be used in an emergency, such as when the backup application has crashed and the tape cannot be ejected from the drive.

Starting Point: Windows NT Program Manager

Step Action

-
1	Exit the Backup application.
2	Select the Main icon from the Windows NT Program Manager.
3	Select the MS-DOS icon.
4	At the DOS prompt, type nbtape .
5	Press Enter.
6	Type TPUNLOCK Tape 0 .
7	Press Enter.
8	Type quit to exit the NBTape utility.
-

Chapter 7

Performing and interpreting start-up diagnostics

In this chapter

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Interpreting POST diagnostics	7-4
Interpreting start-up diagnostics from SCSI BIOS	7-10
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Overview of start-up diagnostics

Introduction

There are three ways to diagnose system faults on the 1001t Server:

- using the PC DIAGS diagnostics package, as discussed in Chapter 2, “Preventative maintenance”
- from startup, through Power-On Self-Test (POST) diagnostic reporting
- using the TSTSERIO command line utility to test serial ports under Windows NT, as discussed in Chapter 8, “Run-time diagnostics”

This chapter describes Power-On Self-Test (POST) diagnostics reporting.

Power-On Self-Test (POST) diagnostics

Definition

The Power-On Self-Test (POST) is a system diagnostic program (stored in the BIOS) that runs every time the 1001t Server is started. Its function is to test system components, then display status messages.

POST message formats

POST reports on the system status in three ways:

- POST beep codes
- POST error codes and messages

Interpreting POST diagnostics

Introduction This section provides an explanation of the POST diagnostic codes.

POST beep codes If an error occurs before video initialization, POST emits beep codes that indicate errors in hardware, software, or firmware.

A beep code is a series of separate tones, each equal in length. Write down the beep code sequence before calling your Nortel customer support representative.

Fatal POST beep codes The following POST beep codes are fatal and require a replacement motherboard.

Beep sequence	Error message and conditions
1-2	ROM checksum error; ROM checksum value does not match encoded value in BIOS.
1-2-2-3	ROM checksum error; ROM checksum value does not match encoded value in BIOS.
1-3-1-1	Refresh failure; memory refresh circuitry on the baseboard is faulty.
1-3-1-3	Keyboard controller gate A20 is off; BIOS cannot switch to protected mode.
2-2-3-1	Unexpected interrupt

**Non-fatal POST
beep codes**

The following POST beep codes are not fatal.

Beep sequence	Error message and conditions
1-3-4-1	Memory error
1-4-1-1	Memory error
2-1-2-3	ROM copyright notice failure

**POST error codes
and messages**

The BIOS indicates errors through POST by displaying a POST diagnostic code on the screen during boot up. Pause messages on screen by pressing the Pause key on your keyboard. Press any key to release the pause.

The following chart lists the onscreen POST error codes and messages.

Code	Description
0002	Primary Boot Device Not Found
0010	Cache Memory Failure, Do Not Enable Cache
0015	Primary Output Device Not Found
0016	Primary Input Device Not Found
0042	ISA config contains invalid information
0050	PnP Memory conflict
0051	PnP 32-bit memory conflict
0052	PnP IRQ conflict
0053	PnP DMA conflict
0054	PnP Error Log is full
0055	Bad PnP Serial ID Checksum

Code	Description
0056	Bad PnP Resource Data Checksum
0060	Keyboard is locked...Please unlock it
0070	CMOS Time and Date Not Set
0080	Option ROM has bad checksum
0083	Shadow of PCI ROM failed
0085	Shadow of ISA ROM failed
0131	Floppy Drive A:
0132	Floppy Drive B:
0135	Floppy Disk Controller Failure
0140	Shadow of System BIOS Failed
0170	Disabled CPU slot #
0171	CPU Failure--Slot 1, CPU # 1
0172	CPU Failure--Slot 1, CPU # 2
0173	CPU Failure--Slot 2, CPU # 1
0174	CPU Failure--Slot 2, CPU # 2
0175	CPU modules are incompatible or one is not present
0176	Previous CPU Failure-- CPU # 1
0177	Previous CPU Failure-- CPU # 2
0180	Attempting to boot with failed CPU
0181	BSP switched, system may not be in uniprocessor mode
0191	CMOS Battery Failed
0195	CMOS System Options Not Set

Code	Description
0198	CMOS Checksum Invalid
0289	System Memory Size Mismatch
0295	Address Line Short Detected
0297	Memory Size Decreased
0299	ECC Error Correction Failure
0301	ECC Single-bit correction failed, Correction Disabled
0302	ECC Double-bit Error
0303	ECC DIMMs incompatible
0310	ECC Address failure, Partition #
0313	ECC Memory Size Decreased, Bank #
0370	Keyboard Controller Error
0373	Keyboard Stuck Key Detected
0375	Keyboard and Mouse Swapped
0380	ECC DIMM Failure, Board in slot 1 DIMM#
0392	ECC DIMM Failure, Board in slot 2 DIMM #
0430	Timer Channel 2 Failure
0440	Gate-A20 Failure
0441	Unexpected Interrupt in Protected Mode
0445	Master Interrupt Controller Error
0446	Slave Interrupt Controller Error
0450	Master DMA Controller Error
0451	Slave DMA Controller Error

Code	Description
0452	DMA Controller Error
0460	Fail-safe Timer NMI Failure
0461	Software Port NMI Failure
0465	Bus Time-out NMI in Slot
0467	Expansion Board NMI in Slot
0501	PCI System Error
0510	PCI Parity Error
0511	PCI System Error
0710	System Board Device Resource Conflict
0711	Static Device Resource Conflict
0780	PCI Segment 1 memory request exceeds 998 Mbytes
0781	PCI Segment 1 I/O requests exceeds 12 kbytes
0782	PCI I/O request exceeds amount available
0783	PCI memory request exceeds amount available
0784	Illegal bus for memory request below 1 Mbyte
0785	Memory request below 1 Mbyte exceeds 1 Mbyte
0800	PCI I/O Port Conflict
0801	PCI Memory Conflict
0802	PCI IRQ Conflict
0803	PCI Error Log is Full
0804	PCI ROM not found, May Be OK for This Card
0805	Insufficient Memory to Shadow PCI ROM

Code	Description
0806	Memory Allocation Failure for Second PCI Segment
0809	PCI Error Log is Full
0810	Floppy Disk Controller Resource Conflict
0811	Primary IDE Controller Resource Conflict
0812	Secondary IDE Controller Resource Conflict
0815	Parallel Port Resource Conflict
0816	Serial Port 1 Resource Conflict
0817	Serial Port 2 Resource Conflict
0820	Expansion board disabled in Slot
0900	NVRAM Checksum error, NVRAM Cleared
0903	NVRAM Data Invalid, NVRAM Cleared
0905	NVRAM Cleared by Jumper
0906	Password Cleared by Jumper
0982	I/O Expansion Board NMI in Slot
0984	Expansion Board Disabled in Slot
0985	Fail-safe Timer NMI
0986	System Reset caused by Watchdog Timer
0987	Bus Time-out NMI in slot

Interpreting start-up diagnostics from SCSI BIOS

Purpose	This section shows the results from the SCSI controller diagnostics. The results from these diagnostics appear after the POST results.
Applicable cards	Results of the start-up diagnostics appear only if you have the following adapter cards installed on your system: • Adaptec SCSI controller This controller is integrated into the system and is therefore always present. • Mylex RAID adapter The RAID adapter is optional and, therefore, may or may not be present in the system.
Successful start-up message for a SCSI system	When you successfully reboot a system that has a SCSI controller, you see the following message: <pre><<<Execute SCSI Select (TM) Utility from SCU disk!>>></pre> SCSI ID: LUN NUMBER #:# 0:0 <u>hard drive</u> <u>vendor</u> <u>model</u> - Drive C: (<u>address</u>) SCSI BIOS DOS installed successfully The system repeats the SCSI ID information for each hard drive installed on the system.
Successful start-up message for a RAID system	When you successfully reboot a system that has RAID, the following screen messages appear: <pre>DAC960 P BIOS Version x.xx DAC960 Firmware Version x.xx</pre>

DAC960 Memory = 4 Mbytes (DRAM)
BIOS Enabled- Press <ALT-M> to Disable BIOS
3 system drives installed

Press any key to continue.

Note: The number of system drives installed varies depending on the number of drives in your system.

Choosing a start-up option

Introduction

Follow the procedure in this section to choose a start-up option.

Choosing a start-up option

To choose a start-up option, follow these steps.

Starting Point: The server computer

Step	Action
1	Start (or restart) the server. Note: You have a five-second time delay before the system defaults to Option 1--Windows NT version 3.51. Result: The following menu appears after start-up: 1. Boot Windows NT (Default in 5 seconds) 2. Reboot DOS 3. Exit to DOS
2	Choose an option. - Option 1 performs a POST, and launches Windows NT. - Option 2 performs a POST, and launches DOS again. - Option 3 starts the DOS command line environment.

Chapter 8

Run-time diagnostics

In this chapter

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Overview

Introduction

There are three ways to diagnose system faults on the 1001t Server:

- using the PC DIAGS diagnostics package, as discussed in Chapter 2, “Preventative maintenance”
- from startup, through Power-On Self-Test (POST) diagnostic reporting, as discussed in Chapter 7, “Performing and interpreting start-up diagnostics”
- using the TSTSERIO command line utility to test serial ports under Windows NT

This chapter describes the procedures for running and interpreting Symposium Call Center Server run-time diagnostics.

Section A, “Running and interpreting online diagnostics,” explains how to access the run-time online diagnostics provided by the Windows NT server software.

Section B, “Running and interpreting serial port diagnostics,” describes the serial port diagnostics that run on the 1001t Server using the TSTSERIO command. Direct the TSTSERIO command to serial ports on the server after services on these ports have been shut down manually.

Section A: **Running and interpreting online diagnostics**

In this section

Checking hardware using Windows NT diagnostics	8-4
Running the chkdsk utility	8-7
Running and interpreting TCP/IP diagnostics	8-9
Running and interpreting Token Ring card diagnostics	8-19
RAID controller administration	8-20

Checking hardware using Windows NT diagnostics

Purpose	This section outlines the diagnostics toolset supplied with Windows NT.						
The Windows NT Diagnostics window	The Windows NT Diagnostics window allows you to access the following server hardware information areas: • OS Version • hardware • memory • drivers • services • devices • IRQ/Port Status • DMA/Memory • environment • network • drives						
Accessing the Windows NT diagnostic tools	To access the Windows NT diagnostics toolset, follow these steps. Starting Point: On the Server, log in as NGenDist. <table><thead><tr><th>Step</th><th>Action</th></tr></thead><tbody><tr><td>1</td><td>In the Program Manager in Windows NT, double-click the Administrative Tools icon.</td></tr><tr><td>2</td><td>Double-click the Windows NT Diagnostics icon.</td></tr></tbody></table> Result: The Windows NT Diagnostics window appears.	Step	Action	1	In the Program Manager in Windows NT, double-click the Administrative Tools icon.	2	Double-click the Windows NT Diagnostics icon.
Step	Action						
1	In the Program Manager in Windows NT, double-click the Administrative Tools icon.						
2	Double-click the Windows NT Diagnostics icon.						

Checking the hardware configuration

To check the 1001t Server hardware configuration from Windows NT, follow these steps.

Starting Point: On the Server, in the Windows NT Program Manager

Step Action

- 1 Double-click the Administrative Tools icon.
Result: The Administrative Tools window opens.
 - 2 Double-click the Windows NT Diagnostics icon.
Result: The Windows NT Diagnostics window opens.
 - 3 Click Hardware.
Result: The Hardware Information window appears.
 - 4 To access CPU information, click the CPU Steppings button.
-

Note: For more information on the Hardware window, consult your Windows NT documentation.

Checking for hardware components and drivers

To check 1001t Server hardware components and drivers from Windows NT, follow these steps.

Starting Point: On the Server, in the Administrative Tools Window

Step Action

- 1 Double-click the Windows NT Diagnostics icon.
 - 2 Click the Drivers button.
Result: The Driver List window appears. This window lists the drivers and their current operational state.
 - 3 Select a driver from the list.
 - 4 Select the Driver Details button for additional information about the selected driver.
-

Checking for hardware conflicts

It is recommended that you check the Windows NT system Event Viewer for hardware conflicts. To do so, follow these steps.

Starting Point: The Windows NT program manager

Step Action

-
1	Double-click the Administrative Tools icon.
2	Double-click the Event Viewer icon in the Administrative Tools window.
	Result: The Event Viewer window appears.
3	Choose Log → System to view the events.
4	Choose View → Filter Events to change the Event Viewer parameters through the Filter dialog box.
-

Running the chkdsk utility

Purpose

The chkdsk utility checks a specified disk on the server and displays a status report. It can be used on the C: or D: partition.

Note: A version of this utility, called autocheck, is automatically run at Windows NT boot-time. Output from this utility is displayed on the start-up screen.

Chkdsk utility syntax

The chkdsk utility uses the following syntax:

chkdsk [drive:][path]filename] [/F] [/V] [/R]

Parameters	Description
[drive:]	The drive letter of the drive you want to check.
filename	The names of files to check for fragmentation.
/F	Add this switch to fix errors on the disk.
/V	Add this switch to display the full path name of every file on the disk.
/R	Add this switch to locate bad sectors and to recover readable information.

Running chkdsk

To run the chkdsk utility, follow these steps.

Starting Point: On the Server, in the Windows NT Program Manager

Step	Action

1	Double-click the Main icon.

Result: The Main window appears.

2	Double-click the Command Prompt icon.

Result: The MS-DOS Command Prompt window appears.

Step Action

3 At the MS-DOS prompt, type **CHKDSK**.

4 Press Enter.

Result: The system runs the chkdsk utility.

5 Type **Exit** to exit MS-DOS and return to Windows NT.

Running and interpreting TCP/IP diagnostics

Introduction

This section outlines the following TCP/IP diagnostic tools available for the Ethernet card. The first three tools are the most useful:

- ipconfig
- ping
- tracert
- arp
- nbtstat
- netstat

The ipconfig command

The ipconfig command displays IP configuration information.

Ipconfig default

Running the command without flags displays the IP address, subnet mask, and default gateway for each adapter bound to TCP/IP.

Ipconfig command syntax

ipconfig [/]

The following flags are available for the ipconfig command.

Flag	Description
/?	Displays help information.
/all	Displays full configuration information.
/release	Releases the IP address for the specified adapter.
/renew	Renews the IP address for the specified adapter.

Running the ipconfig command

To run the ipconfig command, follow these steps.

Starting Point: On the Server, in the Windows NT Program Manager

Step Action

1	Double-click the Main icon. Result: The Main window appears.
2	Double-click the Command Prompt icon. Result: The MS-DOS Command Prompt window appears.
3	At the MS-DOS prompt, type ipconfig <with appropriate parameters>. Example: Type ipconfig /all .
4	Press Enter. Result: The ipconfig utility runs.
5	Type Exit to exit MS-DOS and return to Windows NT.

The ping command

The ping command sends an echo request to a specified host.

Ping command syntax

The ping command uses the following syntax:

ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]

[-r count] [-s count] [[-j host-list] | [-k host-list]]

[-w timeout] destination-list

Parameters	Description
-t	Pings the specified host until interrupted.
-a	Resolves addresses to host names.
-n count	Specifies the number of echo requests to send.
-l size	Sends buffer size.

-f	Set Don't Fragment flag in packet.
-i TTL	Time To Live.
-v TOS	Type Of Service.
Parameters	Description
-r count	Record route for count hops.
-s count	Time stamp for count hops.
-j host-list	Loose source route along host list.
-k host-list	Strict source route along host list.
-w timeout	Timeout in milliseconds to wait for each reply.

Using the ping command

To run the ping command, follow these steps.

Starting Point: The Windows NT Program Manager

Step	Action
1	Double-click the Main icon. Result: The Main window appears.
2	Double-click the Command Prompt icon. Result: The MS-DOS Command Prompt window appears.
3	At the MS-DOS prompt, type ping <destination IP address> . Example: ping 47.286.32.0 Result: The screen should indicate a successful ping.
4	Type Exit to return to Windows NT.

The tracert command

This utility determines the route taken to a destination.

How tracert works

The tracert utility follows several steps to complete its task.

- Tracert sends Internet Control Message Protocol (ICMP) echo packets with varying Time-To-Live (TTL) values to the destination.
- Each router along the path is required to decrement the TTL on a packet by at least 1 before forwarding it, so the TTL is effectively a hop count.
- When the TTL on a packet reaches 0, the router sends back an ICMP Time Exceeded message to the source system.
- Tracert determines the route by sending the first echo packet with a TTL of 1 and incrementing the TTL by 1 on each subsequent transmission until the target responds, or the maximum TTL is reached.
- Tracert then examines the ICMP Time Exceeded messages sent back by intermediate routers.

Tracert syntax

```
tracert [-d] [-h maximum_hops] [-j host_list] [-w timeout]  
[target_name]
```

Tracert parameters

The tracert command uses the following parameters.

Parameter	Description
-d	Specifies not to resolve addresses to hostnames.
-h maximum_hops	Specifies the maximum number of hops to search for target.
-j host-list	Specifies a loose source route along the host list.
-w timeout	Waits the number of milliseconds specified by the timeout for each reply.
target_name	The name of the target host.

**Running the
tracert command**

To use the tracert command, follow these steps.

Starting Point: The Windows NT program manager

Step Action

- 1 Double-click the Main icon.
Result: The Main window appears.
 - 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.
 - 3 At the MS-DOS prompt, type **tracert [-d] [-h maximum_hops] [-j host_list] [-w timeout] [target_name]**.
Example: Type **tracert 47.286.0.32 2 10 47.236.0.64**
Result: The system should respond with a message about Tracing a route to the host_list over a maximum number of hops.
 - 4 Type **Exit** to return to Windows NT once the trace is complete.
-

The arp command The arp command displays and modifies the IP-to-physical address translation tables used by Address Resolution Protocol (arp).

Arp command syntax

The arp command uses the following syntax:

arp -s inet_addr eth_addr [if_addr]

arp -d inet_addr [if_addr]

arp -a [inet_addr] [-N if_addr]

Parameter	Description
-a	Displays current arp entries by interrogating the current protocol data. If inet_addr is specified, the IP and physical addresses for only the specified computer are displayed. If more than one network interface uses arp, entries for each arp table are displayed.
-g	Same as -a.
inet_addr	Specifies an Internet address.
if_addr	Specifies the Internet address of the interface whose address translation table should be modified. If not present, the first applicable interface will be used.
eth_addr	Specifies a physical address.
-N if_addr	Displays the arp entries for the network interface specified by if_addr.
-d	Deletes the host specified by inet_addr.
-s	Adds the host and associates the Internet address inet_addr with the Physical address eth_addr. The physical address is given as six hexadecimal bytes separated by hyphens. The entry is permanent.

Running the arp command

To run the arp command, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

- 1 Double-click the Main icon.
Result: The Main window appears.
- 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.

Step Action

3 At the MS-DOS prompt, type **arp** with the required parameters.

Example: Type **arp -g 47.286.0.32**.

Result: The system responds with the message No ARP entries were found.

The system responds with the following information about the specified IP address.

Interface 47.286.0.32 on Interface 2

Internet AddressPhysical addressType

47.286.0.3208-00-09-15-bd-a6dynamics

4 Type **Exit** to return to Windows NT.

The nbtstat command

The nbtstat command displays protocol statistics and current TCP/IP connections using NBT. This command is available only if the TCP/IP protocol has been installed.

nbtstat command syntax

The nbtstat command uses the following syntax:

nbtstat [-a remotename] [-A IP address] [-c] [-n] [-R] [-S] [-s] [interval]

Parameter	Description
-a remotename	Lists the remote computer's name table using its name.
-A IP address	Lists the remote computer's name table using its IP address.
-c	Lists the contents of the NetBIOS name cache giving the IP address of each name.
-n	Lists local NetBIOS names. Registered indicates that the name is registered by broadcast (Bnode) or WINS (other node types).

-R	Reloads the LMHOSTS file after purging all names from the NetBIOS name cache.
-r	Lists name resolution statistics for Windows networking name resolution. On a Windows NT computer configured to use WINS, this option returns the number of names resolved and registered through broadcast or through WINS.
-S	Displays both client and server sessions, listing the remote hosts by IP address only.
-s	Displays both client and server sessions, and attempts to convert the remote host IP address to a name using the HOSTS file.
interval	Redisplays selected statistics, pausing interval seconds between each display. Press CTRL+C to stop redisplaying statistics. Without this parameter, nbtstat prints the current configuration information once.

Running the nbtstat command

To run the nbtstat command, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

- 1 Double-click the Main icon.
Result: The Main window appears.
- 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.
- 3 At the MS-DOS prompt, type **nbtstat** with the required parameters.
- 4 Type **Exit** to return to Windows NT.

The netstat command

The netstat command displays current TCP/IP network connections and protocol statistics.

Netstat command syntax

The netstat command uses the following syntax:

netstat [-a] [-e] [-n] [-s] [-p proto] [-r] [interval]

Parameter	Description
-a	Displays all connections and listening ports.
-e	Displays Ethernet statistics. This may be combined with the -s option.
-n	Displays addresses and port numbers in numerical form.
-s	Displays per-protocol statistics.
-p proto	Shows connections for the protocol specified by proto. Proto may be tcp or udp. If used with the -s option, proto may be tcp, udp, or ip.
-r	Displays the contents of the routing table.
interval	Redisplays selected statistics, pausing between each display. Press CTRL+C to stop redisplaying.

Running the netstat command

To run the netstat command, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

- 1 Double-click the Main icon.
Result: The Main window appears.
- 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.

Step Action

3	At the MS-DOS prompt, type netstat with the appropriate parameters.
4	Type Exit to return to Windows NT.
-

Running and interpreting Token Ring card diagnostics

Purpose	If TCP/IP protocol is installed, you can diagnose faults on the Token Ring card using the ping command under Windows NT.
Using the ping command	For instructions on using the ping command, see “Using the ping command” on page 8-11.

RAID controller administration

Purpose

RAID controller faults can be detected in three ways:

- **DACCF.exe**
This utility includes RAID controller diagnostics.
- **DACMON.exe**
This is the Windows NT online event reporter for RAID faults. The events are stored in the system event log.
- **DACADM.exe**
This is the Windows NT online utility that allows you to query and recover from faulty RAID drives.

Requirements

To run RAID controller diagnostics, you need a disk titled "DAC960 Configuration and Utilities," including the file \daccfg\daccf.exe, dated November 12, 1996, or later (version 4.40 or better).

Running RAID controller diagnostics

To run RAID controller diagnostics, follow these steps.

Starting Point: The server computer

Step	Action

1	Insert the disk, "DAC960 Configuration and Utilities," into the floppy disk drive a:, and power up the system. Result: The system boots to the a:\> prompt.
2	Type the command you want to run, and press Enter. Example: Type daccf .

Section B: **Running and interpreting serial port diagnostics**

In this section

Overview of running and interpreting serial port diagnostics	8-22
Shutting down services	8-23
Conducting TSTSERIO tests	8-25
Conducting TSTSERIO tests with the loopback plug	8-28
Restarting services	8-29

Overview of running and interpreting serial port diagnostics

Introduction

Serial port diagnostics can be run on the 1001t Server using the TSTSERIO command. The TSTSERIO command can be directed to serial ports on the server after services on these ports have been shut down manually.

Shutting down services

Purpose This section describes how to shut down a service using a specific serial port. Use the procedures below before running the TSTSERIO local loopback tests.

NET STOP command Use the NET STOP command to stop a specified service on a serial port.

NET STOP command syntax

The NET STOP command uses the following syntax:

net stop “[service-name]”



Caution: By stopping Remote Access, you lose the support access feature. By stopping Symposium Link Handler, you lose any Symposium Call Center Server feature that uses voice.

Attention: You must restart the services that you shut down through the NET START command after running the diagnostic. For details, see “Restarting services” on page 8-29.

Running the NET STOP command To run the NET STOP command, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

- 1 Double-click the Main icon.
Result: The Main window appears.
- 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.

Step Action

3	At the MS-DOS prompt, type net stop "[service-name]" . Example: Type net stop "Remote Access Server" . Result: The system responds with a message that the specified service is shut down.
4	Type Exit to return to Windows NT.
-

Conducting TSTSERIO tests

Introduction

The TSTSERIO command performs local loopback tests of the serial communications ports from the 1001t Server “run-time” environment.

Note: Before conducting these tests, you must shut down services using the NET STOP command detailed on page 8-23.



Caution: By stopping services on COM, you lose the support access feature.

TSTSERIO command syntax

The syntax for the TSTSERIO command is as follows:

TSTSERIO [/?] /P:comport [/S:substname [/L:loops]

Flag	Requirement	Description
[/?]	n/a	Displays help.
/P:comport	Required	Specifies the symbolic port name assigned to the port you wish to test.
/S:substname]	Optional	Specifies a TSTSERIO subtest. See the following table for a description of the available subtests.
/L:loops]	Optional	Specifies the number of times (up to a maximum of 65535) to execute the requested test. The default number of tests is 1. A value of 0 infinitely loops until you enter CTRL+C.

TSTSERIO internal loopback diagnostic subtests

The following internal loopback subtests are available for the TSTSERIO command. For each of these tests, the communications resource must be available.

Subtest name	Description
idata	Internal data bus loopback
imsr	Internal modem status register
baud	Internal data bus loopback at various baud rates
word	Test 5-, 6-, 7-, and 8-bit data lengths
stop	Test 1, 1.5, and 2 stop bits
pari	Test odd/even parity
fifo	Test that device can operate in fifo mode

Running the TSTSERIO /P command

To run all of the tests listed in the table above, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

- 1 Double-click the Main icon.
Result: The Main window appears.
- 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.
- 3 At the MS-DOS prompt, type **tstserio /p** with the appropriate com port.
Example: Type **TSTSERIO /P com1** or **TSTSERIO /P com2**.
- 4 Type **Exit** to return to Windows NT.

**TSTSERIO
external loopback
plug subtests**

The following external loopback subtests are available for the TSTSERIO command. For each of these tests, an external loopback connector must be used. For more information, see “Conducting TSTSERIO tests with the loopback plug” on page 8-28.

Subtest name	Description
edata	External data bus loopback. This test requires an external loopback connector.
emsr	External modem status register. This test requires an external loopback connector.
eint	Test ability of device to generate interrupts. This test requires an external loopback connector.

**Running the
TSTSERIO /S
command**

To run all of the tests listed in the table above, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

-
- 1 Double-click the Main icon.
Result: The Main window appears.
 - 2 Double-click the Command Prompt icon.
Result: The MS-DOS Command Prompt window appears.
 - 3 At the MS-DOS prompt, type **tstserio** with the appropriate command as shown in the following example.
Example: Type **TSTSERIO /P com1 /S extr**.
 - 4 Type **Exit** to return to Windows NT.
-

Note: If the port is one of com3-com10 (on the Digiboard), only the edata and emsr tests can be run. The eint and all internal loopback tests cannot run on Digiboard ports.

Conducting TSTSERIO tests with the loopback plug

Introduction

The TSTSERIO command requires an external loopback connector plug for its edata, emsr, and eint subtests.

9-pin connector plug

The standard serial loopback connector is a female 9-pin D-sub connector. This connector has the following pins wired together:

- CTS (pin 8) wired to (pin 7) RTS
- SIN (pin 2) wired to (pin 3) SOUT
- DTR (pin 4) wired to (pin 6) DSR

Once the plug is installed on the serial port, TSTSERIO can be run according to the procedure outlined in the previous section.

Restarting services

Purpose This section describes how to restart a service after running the TSTSERIO local loopback tests.

NET START command Use the NET START command to restart a specified service on a serial port.

NET START command syntax

The NET START command uses the following syntax:

net start “[service-name]”

Running the NET START command To run the NET START command, follow these steps.

Starting Point: The Windows NT Program Manager

Step Action

1	Double-click the Main icon. Result: The Main window appears.
2	Double-click the Command Prompt icon. Result: The MS-DOS Command Prompt window appears.
3	At the MS-DOS prompt, type net start “[service-name]” . Example: Type net start “Remote Access Server” . Result: The system starts up the specified service.
4	Type Exit to return to Windows NT.
-

Chapter 9

Migrating to another platform

In this chapter

Overview	9-2
Preparing for the migration process	9-3
Collecting system information	9-6
Starting the migration process	9-10
Completing the migration without database expansion	9-24
Completing the migration with database expansion	9-27

Overview

Introduction

This chapter provides instructions for migrating the Symposium Call Center Server from one platform to another. The migration includes transferring the database and other system-related files to another platform.

This chapter uses the example of migrating from the 1000t or 701t platform to the 1001t platform.

Database expansion

This chapter provides the procedures for migrating with and without database expansion.

If you are migrating with database expansion, you are moving to a system with additional hard drive space. This extra space allows the database to increase in size.

If you are migrating without database expansion, you are moving to a system with a hard drive that is similar in size to your existing system.

Definition: new computer

The term “new computer” is used to describe the computer on which you will transfer the Symposium Call Center Server and the related files.

Definition: old computer

The term “old computer” is used to describe the computer which contains the current Symposium Call Center Server and the related files.

Preparing for the migration process

Purpose

This section lists the equipment and documentation you must have on hand before beginning the migration process. It also outlines the hard drive configuration requirements.

What you need

Before migrating to another platform, you must have the following equipment and documentation on hand:

- a new computer that is targeted to be the new Symposium Call Center Server
- the old computer, which contains the current Symposium Call Center Server and system files
- a hard drive configuration on the new computer which is at least equal in size and contains the same file system as the old computer
- Nortel Symposium Call Center Server Operating System Setup disks (3)
- Nortel Symposium Call Center Server Operating System CD-ROM
- Nortel Symposium Call Center Server Application CD-ROM
- a blank floppy disk
- the *Nortel Symposium Call Center Server Software Installation Guide*
- the *Nortel Symposium Call Center Server 1001t Hardware Installation Guide*
- Windows NT user documentation, which describes how to use Windows NT

Checking the hard drive configurations

The hard drive configuration of the new computer must be the same as that of the old computer before you install the Symposium Call Center Server. This means that the size of each disk drive on the new computer must be greater than 90% of the corresponding disk drive letters of the old computer.

This is an example of how the configurations between the two computers could appear:

Old computer

C drive 100 Mbytes

D drive 1.9 Gbytes

F drive 2 Gbytes

Total 4 Gbytes

New computer

C drive 100 Mbytes

D drive 1.9 Gbytes

F drive 2 Gbytes

Unformatted or disabled 6 Gbytes

Total 10 Gbytes

Note: If the new computer has additional space, it remains disabled until the Symposium Call Center Server is installed. The additional space is enabled after the installation is completed.

Checking software versions

Ensure that the old and the new computers have the same software versions installed. Both computers must be using the same version of the Symposium Call Center Server. If they are not, upgrade the old machine to the same release as the new machine.

Note: This possible upgrade of the old machine is not included in the down-time calculations in this chapter.

Disabling extra disk drives

If there are extra hard drives on either computer, disable them before continuing. To do so, follow these steps.

Step Action

- 1 Open the Administrative Tools program group.
 - 2 Double-click Disk Administrator.
 - 3 Select the disk drive that you want to disable.
 - 4 Choose Partition → Delete.
 - 5 Reboot the computer.
-

Renaming disk drives

The drive letters on the new computer must match those on the old computer. To change a disk drive letter, follow these steps.

Step Action

- 1 Open the Administrative Tools program group.
 - 2 Double-click Disk Administrator.
 - 3 Select the disk drive that you want to rename.
 - 4 Choose Tools → Drive Letter.
 - 5 Enter the new drive letter.
 - 6 Click OK.
 - 7 Reboot the computer.
-

What's next?

Collect the system information.

Collecting system information

Introduction To migrate to another platform, many of the names and addresses used on the old computer must be recorded and used on the new computer.

Collecting records This table lists the information which must be collected from the old computer before beginning the migration process. It also provides the names of the procedures to follow to obtain this information.

Estimated time: 5 minutes.

To obtain the	Go to the procedure labeled
• Windows NT computer name of the old computer assigned during the Symposium Call Center Server installation • site name • CLAN and ELAN addresses • switch information • keycode used on the old computer • Meridian Mail voice access	“Recording the system information” on page 9-7
• gateway and subnet mask of the CLAN and ELAN adapter cards • host name of the old computer (should always be the same as the Windows NT name)	“Recording the gateway, subnet mask, and host name” on page 9-8

Recording the system information

To record the system information, follow these steps.

Starting Point: Program Manager window on the old computer

Step Action

- 1 Double-click the SysOps Utilities icon.
Result: The SysOps Utilities window appears.
- 2 Double-click the Feature Report icon.
Result: The System Information window appears.
- 3 Record the following system information.

Record the	From this field
Windows NT name of the old computer assigned during the Symposium Call Center Server installation	Installed Computer Name
Site name	Site Name
NCC (Network Call Center) Site Name (if system contains NCC as a feature)	NCC Site Name
CLAN address	CLAN Address
ELAN address	ELAN Address
Meridian Mail voice access	Voice Connectivity

- 4 Select the Switch Information tab.
- 5 Record the following switch information.

Record the	From this field
Switch name	Switch Name
Switch IP address	Switch IP Address

Switch type	Switch Type
Switch customer number	Switch Customer Number

6 Select the Features tab.

7 Record the following feature information.

Record the	From this field
Serial number	Serial Number
Keycode being used on the old computer	Keycode

8 Click OK to exit.

Recording the gateway, subnet mask, and host name

To record the gateway and subnet mask for the CLAN and ELAN adapter cards, and the host name of the old computer, follow these steps.

Starting Point: Main program window on the old computer

Step Action

- 1 Double-click the Control Panel icon.
Result: The Control Panel window appears.
- 2 Double-click the Networks icon.
Result: The Network Settings window appears.
- 3 In the Installed Network Software list, highlight the protocol being used (that is, TCP/IP Protocol).
- 4 Click Configure.
Result: The configuration window for that protocol appears.
- 5 Record the default gateway address and the subnet mask address for both adapter cards by selecting each in turn.
- 6 Click DNS (Domain Name Server).

Step Action

7 Record the host name.

8 Click OK to exit.

What's next?

Start the migration process.

Starting the migration process

Purpose

The process of migrating from one platform to another, with or without database expansion, is almost identical.

This section lists the procedures which are common for both of these migrations. The procedures must be followed in the order shown.

After finishing this section, you must complete the migration process by following the procedures described in “Completing the migration without database expansion” on page 9-24 or “Completing the migration with database expansion” on page 9-27.

Note: If you are using migration with database expansion, the hard drive configuration on your new computer and old computer must meet the requirements discussed in “Checking the hard drive configurations” on page 9-4.

Total elapsed time and downtime

This table shows the total elapsed time and downtime required to complete all the procedures to migrate from the 1000t or 701t platform to the 1001t platform.

These figures are only estimates.

Type of procedure	Total elapsed time	Total downtime
Migrating with database expansion	8 to 13 hours	3 to 6 hours
Migrating without database expansion	7 to 9 hours	2 to 4 hours

**Installing
Windows NT**

To install Windows NT on the new computer, follow these steps.

Estimated time: 1 hour

Starting Point: New computer

Step Action

- 1 Obtain the Windows NT name of the old computer. This was assigned during the Symposium Call Center installation.
Note: To obtain this name, see "Recording the system information" on page 9-7.
- 2 Obtain the CLAN and ELAN addresses from the old computer.
Note: To obtain the CLAN and ELAN addresses, see "Recording the system information" on page 9-7.
- 3 If the new computer is already connected to the network, physically disconnect the LAN cables.
Note: The new computer will be connected to the network later in the migration process.
- 4 Check whether Windows NT has been installed on the new computer.
 - If Windows NT is installed, use the information obtained in step 1 and step 2 to perform the following steps:
 - a. Rename the computer (that is, change the Windows NT computer name). For more information, see "Changing computer name and workgroup" on page 5-43.
 - b. Change the TCP/IP host name. To change the TCP/IP host name, follow the instructions in "Changing the TCP/IP host name" on page 9-12.
 - c. Change the network addresses. For more information, see "Configuring TCP/IP for the first network adapter card" on page 5-57.
 - If Windows NT is not installed, go to step 5.

Step Action

- 5 Install Windows NT on the new computer. For instructions, see Chapter 5, "Performing software maintenance."

Note: During the installation, enter the Windows NT name, the CLAN address, and the ELAN address obtained in steps 1 and 2.

**Changing the
TCP/IP host name**

The Windows NT computer and the TCP/IP host name must always be the same. To change the TCP/IP host name, follow these steps.

Starting Point: Windows NT Control Panel

Step Action

- 1 In Control Panel, double-click Network.
 - 2 Click Network Settings.
 - 3 In the Installed Network Software field, select the TCP/IP protocol.
 - 4 Click Configure.
 - 5 Click DNS.
 - 6 For Host Name, enter the new host name.
 - 7 Click OK twice.
 - 8 Click Yes to reboot the computer.
-

**Installing Remote
Access Server
(RAS) software**

The Remote Access Server (RAS) is usually installed during the Windows NT installation procedure. If it was not installed on the new computer with Windows NT, install it now. To do so, follow the procedure in "Installing remote access service software" on page 5-55.

**Installing
Symposium Call
Center Server**

To install the Symposium Call Center Server on the new computer, follow these steps.

Estimated time: 3 hours

Starting Point: New computer

Step Action

1	Obtain the system information from all the procedures described in "Collecting system information" on page 9-6. Note: This information must be entered in the appropriate locations when installing the Symposium Call Center Server.
2	Install the Symposium Call Center Server on the new computer. Note: For more information on installing the Symposium Call Center Server, refer to the <i>Nortel Symposium Call Center Server Software Installation Guide</i> , Chapter 3, "Setting up the server."
3	At the end of the installation, click OK to skip the configuration mode. Note: Do not reboot the Symposium Call Center Server at this time. It is also unnecessary to configure the server because the data from the old computer will be moved to the new computer.
-

Shutting down the Symposium Call Center Server services

To shut down the Symposium Call Center Server services on the new computer, follow these steps.

Estimated time: 5 minutes

Starting Point: Program Manager window on the new computer

Step Action

- 1 Double-click the SysOps Utilities icon.
Result: The SysOps Utilities window appears.
 - 2 Double-click the Shutdown icon.
Result: A dialog box appears asking if you want to shut down the system.
 - 3 Click OK.
Result: A message appears to confirm that the system has been shut down.
 - 4 Click OK.
-

Preserving the NBSystemRecord

The NBSystemRecord created on the new computer during installation must be preserved and restored after the database copy from the old computer. It contains hardware and other information relating to the new computer.

To preserve the NBSystemRecord on the new computer, follow these steps.

Estimated time: 5 minutes

Starting Point: Command prompt on the new computer

Step Action

- 1 At the command prompt, type **sybping**.
Result: A window appears. It lists the database servers to which your computer can connect.

Step Action

- 2 Record the name of the SQL Server Service which appears in the form <computername>_SQLSRV.
Note: The <computername> contains the name of the computer which was used when the Symposium Call Center Server was installed.
 - 3 Click Exit.
Result: The command prompt appears.
 - 4 Insert the blank floppy disk into the new computer.
 - 5 At the command prompt, type **cd d:\Nortel\CCM\bin**.
 - 6 Type **perl bcpio.pl out A: <servername>**.
Note: For <servername>, type the <computername>_SQLSRV that you recorded in step 2. The entry is case-sensitive.
Result: The NBSYSTEMRECORD is preserved and the command prompt reappears.
 - 7 Eject the floppy disk from the new computer.
Note: Keep the floppy disk on hand. It will be needed for the "Restoring the NBSYSTEM RECORD" on page 9-21.
-

Shutting down the NGen and Sybase services

To shut down the NGen and Sybase services on the new computer, follow these steps.

Estimated time: 5 minutes

Starting Point: File Manager on the new computer

Step Action

- 1 Using the File Manager, locate and double-click on D:\Nortel\bin\ngensd.exe.
Result: A dialog box appears asking if you want to shut down your system.

Step Action

- 2 Click Yes.

Result: A message appears to confirm that the system has been shut down.

- 3 Click OK.
-

Attention: If you experience problems shutting down these services, repeat this procedure and check the C:\SysOps\ngensd.log file. The log file indicates the status of each service. If the problem persists, call Nortel support.

Installing the patches

To install any patches required by the customer on the new computer, refer to the *Nortel Symposium Call Center Server Software Installation Guide*, Chapter 6, “Server software maintenance,” Section B: Installing server software patches.

Deleting the files

The files in the Nortel\database directories must be deleted to allow the corresponding files to be transferred from the old computer. To delete all files from the \Nortel\database directories in the new computer, follow these steps.

Estimated time: 5 minutes

Starting Point: File Manager on the new computer

Step Action

- 1 Using the File Manager, locate the \Nortel\database directories on all hard drives in the new computer beginning with the D: drive, and delete all files in the directories. For example, this could include the D: drive, F: drive, and so on.

Note: Do not delete the directory structure. If it is accidentally deleted, restore it before continuing with the remaining procedures.

Disabling ELAN To disable the ELAN and disconnect it from the Meridian 1 switch, follow these steps.

Estimated time: 5 minutes

Starting Point: Meridian 1 console

Step	Action

1	Determine the Meridian 1 software release of your system. To determine the release number, type these commands on the Meridian 1 console: LD22 ISS Result: The release number is displayed.
2	After determining the release number, type these commands: • For Meridian 1 software prior to X11 Release 22.37, type these commands: LD48 DIS ELAN 1st - to bring down the server task first DIS ELAN xx 2nd - to bring down the ELAN link task • For Meridian 1 software X11 Release 22.37 and patches (or later), type these commands: LD 48 DIS ELAN TEST DIS ELAN xx TEST • For Meridian 1 software X11 Release 22.61, you must use the MPLR10146 patch and the MPLR10147 patch (for Symposium Call Center Server 01.10.30), or the MPLR10148 patch (for Symposium Call Center Server 01.10.36 and later). These patches can be obtained from your Nortel support personnel.
3	Disconnect the physical ELAN link from the Meridian 1 switch Ethernet port.
-

Setting up the new computer

To set up the new computer, follow these steps.

Estimated time: 15 minutes

Starting Point: Control Panel → Network Settings window on the new computer

Step	Action

1	Assign a Windows NT name to the computer. For instructions, refer to "Changing the computer name and workgroup" on page 1-24. Note: The name must be different from the Windows NT computer name used on the old computer.
2	Change the TCP/IP host name. For instructions, refer to "Changing the TCP/IP host name" on page 9-12. Note: The windows NT name and the TCP/IP host name must be the same.
3	Assign a new ELAN IP address. Ensure that the ELAN IP address meets the following conditions: • The name must be different from the ELAN IP address used on the old computer. • The new ELAN IP address must be on the subnet as the ELAN IP address for the old computer. Note: Change the ELAN IP address using the Network Settings window, which is accessed by selecting the Control Panel icon, followed by the Networks icon. For more information, refer to your Windows NT user documentation.
4	Go to the command prompt.
5	Type cd D:\Nortel\ICCM\bin .
6	Type serman manual . Result: The system runs a utility to put all the services into manual state so they will not appear during the reboot. When it is finished, the command prompt reappears.

Step Action

- 7 Connect the new computer to the ELAN network.
Note: For more information on connecting the computer to the ELAN network, contact your LAN administrator.
 - 8 Reboot the new computer.
-

**Shutting down
Symposium Call
Center Server and
NGen services**

To shut down the Symposium Call Center Server services and NGen services on the old computer, follow these steps.

Estimated time: 15 minutes

Starting Point: Old computer

Step Action

- 1 To shut down the Symposium Call Center Server services, follow the steps described in "Shutting down the Symposium Call Center Server services" on page 9-14.
 - 2 To shut down the NGen and Sybase services, follow the steps described in "Shutting down the NGen and Sybase services" on page 9-15.
-

Copying data files

To copy all the data files from the Nortel database directories on the old computer to the new computer, follow these steps.

Estimated time: 3 hours.

(This time varies depending on the system size. This estimation is based on a 10 Gbyte system. Systems with 2 to 10 Gbytes take between one to three hours.)

Starting Point: Old computer and new computer

Step Action

- 1 Using the Windows networking features, connect the new computer to the shared directories in the old computer.
Note: For more information, refer to your LAN administrator or Windows NT user documentation.
 - 2 Using the File Manager on the old computer, copy the files in the Nortel\database directories from each of the drives (for example, D, F, and G) to the corresponding drives and directories on the new computer.
This can be done over the network using ELAN.
 - 3 Disconnect the shared directories between the old and the new computers.
For more information, refer to your LAN administration or Windows NT user documentation.
-

Attention: If an error occurs, repeat the instructions provided in all the procedures from “Deleting the files” on page 9-16 to “Copying data files” on page 9-19.

Copying the Hosts file

The Hosts file contains the network information, such as the switch IP address. To copy the Hosts file from the old computer to the new computer, follow these steps.

Estimated time: 1 minute

Starting Point: File Manager on the old computer

Step Action

- 1 Using the File Manager on the old computer, locate the Hosts file in D:\WINNT35\System32\drivers\etc\hosts.
- 2 Using the Microsoft Network sharing features of Windows NT, set up the directory to be shared.
Note: For more information, refer to your Windows NT user documentation.

Step Action

- 3 Using the Windows networking features, connect the new computer to the shared directories in the old computer.
 - 4 Copy the file to D:\WINNT35\System32\drivers\etc\hosts on the new computer.
-

**Restoring the
NBSystem Record**

To start the Sybase SQL Server service and restore the NBSystemRecord on the new computer, follow these steps.

Estimated time: 20 minutes

Starting Point: Program Manager window on the new computer

Step Action

- 1 At the command prompt, type **sybping**.
Result: A window appears. It lists the database servers to which your computer can connect.
- 2 Record the name of the SQL Server Service which appears in the form <computername>_SQLSRV.
Note: The <computername> contains the name of the computer which was used when the Symposium Call Center Server was installed.
- 3 Double-click the Sybase for Windows NT icon.
Result: The Sybase for Windows NT window appears.
- 4 Double-click the Services Manager icon.
Result: The Sybase Services Manager window appears.
- 5 Select SQL Server.
Result: The server list box displays all available SQL servers on that computer.
- 6 Select <computername>_SQLSRV.

Step Action

- 7 Double-click the green light.
Note: Wait for the green light to turn on. It indicates that the Sybase Database Server is ready.
- 8 Move the cursor to a window with the command prompt.
- 9 Click Exit.
Result: The command prompt appears.
- 10 Insert the floppy disk used to preserve the NBSysmRecord in the "Preserving the NBSysmRecord" on page 9-14.
- 11 At the command prompt, type **cd d:\Nortel\CCM\bin**
- 12 Type **perl bcpio.pl in A: <servername>**
Note: For <servername>, type the <computername>_SQLSRV that you recorded in step 2. The entry is case-sensitive.
Result: The NBSysmRecord is restored and the command prompt reappears.
- 13 Eject the floppy disk from the new computer.

Shutting down Windows NT

To shut down Windows NT and disconnect the ELAN and CLAN from the old computer, follow these steps.

Estimated time: 10 minutes

Starting Point: Program Manager window in the old computer

Step Action

- 1 From the File drop-down menu, select Shut Down.
Result: The Windows NT is shut down.
- 2 Disconnect the ELAN and CLAN from the old computer.
Note: For more information, contact your LAN administrator.

What's next?

Choose one of the following options to continue:

- If you are doing a migration without database expansion, you must go to “Completing the migration without database expansion” on page 9-24.
- To complete the migration with database expansion, go to “Completing the migration with database expansion” on page 9-27.

Completing the migration without database expansion

Purpose This section lists the procedures which must be followed to complete the process of migrating to another platform without database expansion. The procedures must be completed in the order shown.

Before you begin Before you begin this section, you must complete the procedures described in “Starting the migration process” on page 9-10.

Connecting the ELAN to the switch To connect the ELAN to the Meridian 1, follow these steps.
Estimated time: 5 minutes

Starting Point: Meridian 1 console

Step	Action
1	Connect the ELAN to the Meridian 1. Note: For more information, refer to the <i>Nortel Symposium Call Center Server 1001t Hardware Installation Guide</i> , Chapter 2, “Installing hardware.”
2	On the Meridian 1 console, type the following commands: LD 48 ENL ELAN
3	Type LOGO to exit.

Setting up the new computer

To set up the new computer, follow these steps.

Note: Before you begin, ensure that the hard drive configuration requirements are met. For more information, see “Checking the hard drive configurations” on page 9-4.

Estimated time: 15 minutes

Starting Point: Main program window on the new computer

Step Action

- 1 Change the WinNT computer name to the same name used on the old computer. For instructions, refer to “Changing the computer name and workgroup” on page 1-24.
 - 2 Change the TCP/IP host name. For instructions, refer to “Changing the TCP/IP host name” on page 9-12.
Note: The Windows NT name and the TCP/IP host name must be the same.
 - 3 Change the ELAN IP address to the same ELAN IP address used on the old computer.
Note: This can be changed through the Network Settings window, which is accessed by selecting the Control Panel icon, followed by the Networks icon. For more information, refer to your Windows NT user documentation.
 - 4 Go to the command prompt.
 - 5 Type **cd D:\Nortel\ICCM\bin**.
 - 6 Type **serman auto**.
Result: The system runs a utility to put all the services into automatic state so they will come up after the reboot. When it is finished, the command prompt reappears.
 - 7 Connect the new computer to the CLAN network.
Note: For more information, contact your LAN administrator.
 - 8 Reboot the new computer to bring it online.
-

Performing a sanity check and verifying data

After the migration process is finished, perform sanity checks to ensure that the network is accessible to the server.

To perform a sanity check and verify the data, follow these steps.

Estimated time: 30 minutes

Starting Point: New computer

Step Action

-
1	After the new computer is up and running, perform a sanity check. For more information on sanity checks, refer to "Performing a sanity check" on page 5-68.
2	Log in the supervisors and check that their access levels are identical. For example, they should have access to the same reports, displays, and so on.
3	Make calls into the Symposium Call Center Server to ensure that the calls are treated according to the active scripts.
4	Print common reports used by the Symposium Call Center Server to ensure that the data is correct.
5	Open the real-time displays to ensure that the data is correct.
-

Completing the migration with database expansion

Purpose This section lists the procedures which must be followed to complete the process of migrating to another platform with database expansion. The procedures must be completed in the order in which they are shown.

Before you begin Before you begin this section, you must complete the procedures described in “Starting the migration process” on page 9-10.

Setting up the new computer

To set up the new computer, follow these steps.

Note: Before you begin, ensure that the hard drive configuration requirements are met. For more information, see “Checking the hard drive configurations” on page 9-4.

Estimated time: 15 minutes

Starting Point: Main program window on the new computer

Step Action

- 1 Change the WinNT computer name to the same name used on the old computer. For instructions, refer to “Changing the computer name and workgroup” on page 1-24.
- 2 Change the TCP/IP host name. For instructions, refer to “Changing the TCP/IP host name” on page 9-12.
Note: The windows NT name and the TCP/IP host name must be the same.
- 3 Change the ELAN IP address to the same ELAN IP address used on the old computer.
Note: This can be changed through the Network Settings window, which is accessed by selecting the Control Panel icon, followed by the Networks icon. For more information, refer to your Windows NT user documentation.

Step Action

- 4 Connect the new computer to the CLAN network.

Note: For more information, contact your LAN administrator.

Connecting the ELAN to the switch

To connect the ELAN to the Meridian 1, follow these steps.

Estimated time: 5 minutes

Starting Point: Meridian 1 console

Step Action

- 1 Connect the ELAN to the Meridian 1.

Note: For more information, refer to the *Nortel Symposium Call Center Server 1001t Hardware Installation Guide*, Chapter 2, "Installing hardware."

- 2 On the Meridian 1 console, type the following commands.

LD 48

ENL ELAN

- 3 Type **LOGO** to exit.
-

Configuring and formatting hard drive space

To configure and format additional hard drive space on the new computer, follow these steps.

Note: Disk 0 should only be 2 Gbytes. If there is an additional 2 Gbytes present, do not format it.

Estimated time: 20 minutes (approximately 10 minutes for each 4 Gbytes of disk space)

Starting Point: New computer

Step Action

1	Configure and format additional hard drive space, if it is unformatted. Note: For information on formatting additional hard drive space, refer to the <i>Nortel Symposium Call Center Server Software Installation Guide</i> , Chapter 3, "Setting up the server," "Formatting optional multiple drives."
2	Reboot the new computer to bring it online.
-

Upgrading the software

Estimated time: 45 minutes (10 Gbyte system)

To expand the database, you must upgrade the Symposium Call Center Server software. After it is upgraded, the system recognizes that the hard drive configuration has changed and performs a database expansion. For more information on upgrading the Symposium Call Center Server, refer to the *Nortel Symposium Call Center Server Software Installation Guide*, Chapter 6, “Server software maintenance.”

Performing a sanity check and verifying data

After the migration process is finished, perform sanity checks to ensure that the network is accessible to the server. To perform a sanity check and verify the data, follow these steps.

Estimated time: 30 minutes

Starting Point: New computer

Step Action

-
1	After the new computer is up and running, perform a sanity check. For more information on sanity checks, refer to “Performing a sanity check” on page 5-68.
2	Log in the supervisors and check that their access levels are identical. For example, they should have access to the same reports, displays, and so on.
3	Make calls into the Symposium Call Center Server to ensure that the calls are treated according to the active scripts.
4	Print common reports used by the Symposium Call Center Server to ensure that the data is correct.
5	Open the real-time displays to ensure that the data is correct.
-

Chapter 10

Performing remote tasks

In this chapter

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Section B: Setting up the remote clients	10-17
Section C: Running the remote client	10-25
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Overview

Introduction

Remote operations enable the system administrator to administer the 1001t Server from a remote PC. They also allow the technical support staff to access the server to troubleshoot, run diagnostics, and transfer software patches.

Before you can perform remote operations, you must set up and configure the 1001t Server and the remote access client sites.

pcANYWHERE32

The pcANYWHERE32 is a remote access software that allows one PC to control another. To allow support personnel to connect to the Symposium Call Center Server, you must install and configure pcANYWHERE32 on the Symposium Call Center Server and the PC at the remote site.

***Section A:* Setting up the server for remote access**

In this section

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Installing pcANYWHERE32	10-9
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Configuring pcANYWHERE32	10-12
Adding Nortel caller accounts in pcANYWHERE32	10-13

Overview of setting up the server for remote access

Introduction

The 1001t Server must be set up and configured to accept remote access.

Software requirements

To accept remote access, the following software and accounts must be installed and configured on the 1001t Server:

- Windows NT remote dial-up accounts
- Windows NT Server operating system
- Remote Access Service (RAS) for pcANYWHERE32
- pcANYWHERE32

Configuring security for remote accounts

Purpose When the 1001t Server is installed, two Windows NT remote dial-up user accounts are automatically established: NGenDist and NGenDesign.

These accounts allow support staff to access the server through Windows NT to troubleshoot, run diagnostics, and transfer software patches.

Security The passwords for the NGenDist and NGenDesign accounts should be changed regularly for customers concerned about security.

The password should be unique, alphanumeric, and a minimum of six characters.

Creating security passwords To create security passwords in Windows NT, follow these steps.

Starting Point: The server computer

Step	Action

1	Log in as Administrator.
2	From the Program Manager, select Administrative Tools (Common).
3	Select User Manager. Result: The User Manager screen displays a list of available user accounts, including NGenDist and NGenDesign.
4	Double-click the NGenDist icon. Result: The User Properties screen appears.

Step Action

5	In the Password field, type a unique password containing a minimum of six alphanumeric characters. Note: Make a note of this password. You will need to supply it to the Nortel support desk.
6	In the Confirm Password field, type the same password entered in the Password field.
7	Click OK to return to the User Manager. Result: The User Properties screen closes.
8	Double-click the NGenDesign icon.
9	Repeat steps 5 to 7.
10	Select Exit to close the User Manager.
-

Configuring Remote Access Service

Purpose

To prepare for remote access in Windows NT, you must verify that the system has the proper configuration.

Attention: To ensure a proper connection, the two RAS IP addresses on the 1001t Server must be on the same subnet as the CLAN.

Note: Although RAS is pre-installed in the 1001t Server, situations may occur in which it will need to be reinstalled. For more information, refer to “Installing remote access service software” on page 5-55.

Verifying system configuration

Before connecting and configuring RAS, follow these steps to ensure your system has the following configuration.

Starting Point: The server computer

Step	Action

1	From the Program Manager, double-click Main.
2	From the Main window, double-click Control Panel.
3	From the Control Panel, double-click Network.
4	From the Network Settings window, select Remote Access Service under the Installed Network Software box.
5	Click Configure. Result: The Remote Access Setup window appears. COM 1 is selected as the modem.
6	Click Network. Result: The Network Configuration window appears.
7	Select NetBEUI under the Server Settings box.

Step Action

8	Click Configure. Result: The RAS Server NetBEUI Configuration window appears.
9	Click the radio button next to This Computer only.
10	Click OK. Result: The Network Configuration window appears.
11	Select TCP/IP under the Server Settings box.
12	Click Configure. Result: The RAS Server TCP/IP Configuration window appears.
13	Click the radio button next to This Computer only.
14	Click the button next to Use Static Address Pool.
15	Change the Begin range. Note: Ask the customer LAN representative for two consecutive IP addresses on the CLAN. Use these numbers in the Begin range and End range.
16	Change the End range.
17	Click OK in the RAS Server TCP/IP Configuration window.
18	Click OK in the Network Configuration window.
19	Click Continue in the Remote Access Setup window.
20	Click OK in the Network Settings window.
21	Choose Reboot Now in the Network Settings Change dialog box. Note: The changes take effect when Windows NT is restarted.
-

Installing pcANYWHERE32

Purpose After you have completed RAS configuration, you must install pcANYWHERE32 software on the server. The setup files are included on the Symposium Call Center Server Operating System CD-ROM.

Installing pcANYWHERE32

To install pcANYWHERE32, follow these steps.

Starting Point: The server computer

Step	Action

1	Insert the Nortel Symposium Call Center Operating System CD-ROM.
2	Run the cdinst.exe program on the CD-ROM to start the installation. Result: The Installation window appears.
3	Click the Install Software button. Result: The Welcome window appears.
4	Click Next. Result: The User Information window appears.
5	Enter both the user and company names, then click Next. Result: The Online License Agreement window appears.
6	Click Yes. Note: This indicates that you accept the software license agreement. Result: The Choose Destination window appears.
7	Select Browse to change the directory for installing pcANYWHERE32, then click Next. Result: The Setup Review window appears.
8	Select Next. Result: The Symantec Support window appears.

Step	Action
9	Select Next. Result: The How to Reach Us window appears.
10	Select Next. Result: The Windows Solutions window appears.
11	Select Next. Result: The Registration Wizard window appears.
12	Select Skip. Result: The pcANYWHERE32 Setup window appears. The system asks whether you would like to view the Readme file.
13	Select No.
14	Click Yes to reboot the computer.

Starting pcANYWHERE32 for the first time

Starting pcANYWHERE32

To start pcANYWHERE32 for the first time, follow these steps.

Starting Point: The pcANYWHERE32 program group

Step	Action

1	Double-click the pcANYWHERE32 icon. Result: The Smart Setup Wizard window appears.
2	Click Next. Result: The Network Device window appears.
3	Click the checkbox next to TCP/IP, then click Next. Result: The Direct Cable Connection window appears.
4	Select Finish.
-

Configuring pcANYWHERE32

Purpose Configuring pcANYWHERE32 sets up a secure caller account to access the server. You can add a caller account for each remote PC, including Nortel. These caller accounts restrict usage of pcANYWHERE32 to appropriate users.

What configuring pcANYWHERE32 involves Configuring pcANYWHERE32 involves the following:

- setting the video mode
- adding Nortel caller accounts during initial system setup. For more information, see “Adding Nortel caller accounts in pcANYWHERE32” on page 10-13.

Setting the video mode To change the video mode from the default, follow these steps.

Starting Point: The pcANYWHERE32 Program group

Step	Action

1	Double-click the pcANYWHERE32 icon.
2	Select Application Options from the File menu.
3	Select the Host Operation tab.
4	Click the Video mode drop-down list to change from the default setting to Compatibility.
5	Click Apply.
6	Click OK to exit.
-

What's next? Add Nortel caller accounts in pcANYWHERE32.

Adding Nortel caller accounts in pcANYWHERE32

Purpose To accept calls from a remote Nortel PC, pcANYWHERE32 must be configured to include Nortel caller accounts.

Nortel accounts When the Nortel server software is installed, two remote dial-up accounts are automatically established: NGenDist and NGenDesign. You must configure pcANYWHERE32 to use the following passwords.

Account	Password
NGenDist	ntdist
NGenDesign	Nortel

Adding caller accounts to pcANYWHERE32

To configure pcANYWHERE32 to accept Nortel technical support calls, follow these steps.

Starting Point: The pcANYWHERE32 main window

Step	Action

1	Double-click the pcANYWHERE32 icon.
2	Select "Be a Host."
3	Click Network. Note: If you double-click the icon, you begin a pcANYWHERE32 session before the software is properly configured.
4	From the File menu, select Properties. Result: The Network Properties sheet appears. Note: The Alt+Enter key combination also accesses the Properties sheet.
5	Select the Connection Info tab.

Step Action

- 6 In the Device list, select TCP/IP.
- 7 Select the Settings tab.
- 8 In the Host Startup, select Launch with Windows.
- 9 Select the Callers tab.
- 10 Select Specify Individual Caller Privileges.
- 11 Double-click Add Caller.
Result: The New Caller Wizard window appears.
- 12 Enter a name for the caller, and click Next.
- 13 Type **NGenDist** for the login name.
Note: Use the following user names and passwords. Once set up, either password may be changed as needed. If you have your own password, you have to give it to Nortel before you can receive any support.

User Name	Password
NGenDist	ntdist
NGenDesign	Nortel
- 14 Type **ntdist** for the password.
Note: Use the password that corresponds to the User Name entered in step 13.
- 15 Type **ntdist** again to confirm the password.
- 16 Click Finish.
- 17 Repeat steps 12 to 16 for the NGenDesign account, using Nortel as the password.
- 18 Select the Security Options tab.
- 19 In the Connection options, select Log failed connection attempts.
- 20 In the Login options, set the Limit login attempts per call option to 3 minutes.

Step	Action

21	In the Login options, set the Limit time to complete login option to 3 minutes.
22	In the Encryption Level, select pcANYWHERE.
23	Select the Protect Item tab.
24	Type ntdist .
25	Type ntdist again. Note: This protects your pcANYWHERE32 settings.
26	Click OK to apply all pcANYWHERE32 settings.
27	Double-click the Network icon to wait for a connection.

Maintaining pcANYWHERE32 security

For security reasons, it is recommended that you regularly change the pcANYWHERE32 passwords which provide remote access to your system.

Changing passwords in pcANYWHERE32

To change the passwords that provide Nortel technical support with access to your system, follow these steps.

Starting Point: The pcANYWHERE32 main window

Step	Action

1	Double-click the pcANYWHERE32 icon.
2	Select Be a Host PC.
3	Click Network.
4	From the File menu, select Properties. Result: The Network Properties sheet appears.
5	Select the Callers tab.
6	Click Specify individual caller privileges.
7	Click the NGenDist icon.

Step Action

8	Select Properties. Result: The Properties screen for NGenDist is displayed.
9	In the Password field, type a unique password. Note: Nortel recommends that this be the same password entered in Windows NT to allow Nortel technical support to access your server. If you use a different password, give it to Nortel technical support. For more information, refer to "Configuring security for remote accounts" on page 10-5.
10	In the Confirm Password field, type the same password entered in the Password field.
11	Click Apply.
12	Click OK.
13	Click the NGenDesign icon.
14	Select Properties. Result: The Properties screen for NGenDesign is displayed.
15	Repeat steps 9 to 12.
16	Click OK to return to the main pcANYWHERE32 screen.
-

Section B: **Setting up the remote clients**

In this section

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Installing and configuring pcANYWHERE32	10-20
Accessing the 1001t Server from a remote site	10-22

Overview of setting up the remote clients

Introduction	After the appropriate software is installed and configured, you can dial in to the 1001t Server from a remote PC.
Software requirements	The remote PCs must be configured with the following software: • Windows 95 (or higher) or Windows NT Workstation 3.x (or higher) • pcANYWHERE32
Using Windows 95	The following features are available to support personnel in Windows 95: • Dial-up Networking • Windows Explorer The following networking features are available in a package from Microsoft called Nexus for Windows 95: • user manager • server manager • event viewer Note: The Nexus for Windows 95 package is not supplied by Nortel.
Using Windows NT	Support personnel can use the following networking features supplied by Windows NT: • Remote Access Service (RAS) • file manager, user manager, and server manager • performance monitor • event viewer Refer to Microsoft's <i>Windows NT Server/Workstation Version 3.5 System Guide</i> for details on Windows NT features.

Configuring the operating system

Purpose To prepare for remote access, you must configure the operating system on the remote PC. This operating system can be Windows 95 (or higher) or Windows NT Workstation 3.x (or higher).

Refer to your Windows 95 or Windows NT Workstation user guides for details on accessing the Dial-Up Networking feature or RAS feature.

Configuring the operating system To configure Windows 95 or Windows NT Workstation, follow these steps.

Step	Action

1	If you are using Windows 95 or Windows NT Workstation 4.0, install the Dial-Up Networking feature. If you are using Windows NT Workstation 3.x, install the Remote Access feature.
2	In the Dial-Up Networking or RAS feature, create a new connection profile using the following parameters: • Enter the telephone number of the Symposium Call Center Server. • For the network protocols, select only TCP/IP and NetBEUI. • For the dial-up server type, select PPP:Windows NT. • In the TCP/IP Settings, specify the following: a. an IP address b. name server addresses • In the TCP/IP Settings, you must also use the default gateway on the remote network.

Installing and configuring pcANYWHERE32

Purpose

Typically, a Nortel technical support PC or the system administrator's PC is located off-site. Using pcANYWHERE32, a remote PC can dial in and access the host PC, which is usually the server.

Before communicating with the server, pcANYWHERE32 client software must be installed and configured at the remote PC. The installation procedure is identical to the steps followed to install the pcANYWHERE32 server software.

Installing pcANYWHERE32 on a remote PC

To install pcANYWHERE32 on a remote PC, follow the steps described in "Installing pcANYWHERE32" on page 10-9.

Configuring pcANYWHERE32 on a remote PC

To configure pcANYWHERE32 on a remote PC, follow these steps.

Starting Point: The pcANYWHERE32 main window on the client computer

Step	Action

1	Follow the steps described in "Setting the video mode" on page 10-12.
2	Go to the pcANYWHERE32 main window.
3	Select the Remote Control (Action).
4	Select Add Remote Control Item.

Step Action

- 5 Create a new pcANYWHERE32 connection profile using the following parameters:
 - Assign a profile name.
 - For the connection device, select TCP/IP.

Note: Do not select a modem.

 - For the Host PC Name, enter the CLAN IP address.
 - Disable the field called "Automatically begin remote control session upon wizard completion."
 - 6 After the new pcANYWHERE32 connection profile has been created, right-click the new connection icon.
 - 7 From the File drop-down menu, select Properties.
 - 8 Under the Setting tab, increase the "Number of connection attempts" to a value higher than zero.
-

Accessing the 1001t Server from a remote site

Purpose The pcANYWHERE32 can use Windows 95 or Windows NT to access the 1001t Server from a remote site.

Requirements Before you begin, you should obtain the following from the customer's system administrator:

- login ID and password to access Dial-Up Networking or RAS
- telephone number to connect to the 1001t Server

Accessing the server To access the 1001t Server from a remote site using Dial-Up Networking or RAS, follow these steps.

Starting Point: The client computer

Step	Action

1	In the Dial-Up Networking or RAS window, double-click the icon which was created to connect to the 1001t Server. For more information on creating a connection, refer to "Configuring the operating system" on page 10-19.
2	When prompted, enter the login ID and password. Note: The default login is NgenDist. The default password is ntdist.
3	When prompted, verify the phone number to connect to the 1001t Server.
4	Wait until the connection is established.
5	Go to the "Accessing the server through pcANYWHERE32" on page 10-23.

Accessing the server through pcANYWHERE32

To connect to the 1001t Server using pcANYWHERE32, follow these steps.

Step Action

- 1 Access the 1001t Server through Dial-Up Networking or RAS.
Note: For instructions, refer to “Accessing the server” on page 10-22.
 - 2 In pcANYWHERE32 Remote Control window, double-click the icon which was created to connect to the 1001t Server.
For more information on configuring this connection, refer to “Configuring pcANYWHERE32 on a remote PC” on page 10-20.
 - 3 When prompted, enter the pcANYWHERE32 login ID and password.
Note: The default login is NgenDist. The default password is ntdist.
Result: If the correct login ID and password are entered correctly, pcANYWHERE32 becomes connected to the 1001t Server.
-

Logging out of the 1001t Server

To log out of the 1001t Server, follow these steps.

Step Action

- 1 To log out of the 1001t Server, press Ctrl+Alt+Del on the remote 1001t Server and select Logout.
 - 2 Disconnect the pcANYWHERE32 connection.
 - 3 Disconnect the Dial-Up Networking or RAS connection.
-

***Section C:* Running the remote client**

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Overview of running the remote client

Introduction

Support personnel can access the 1001t Server through a dial-up point-to-point protocol connection. This section explains how to run the Symposium Call Center Server client on a remote computer.

Running the remote client

Purpose Follow these procedures to run the Symposium Call Center Server client on the remote computer.

Requirements The Symposium Call Center Server client must be installed on the remote PC. The client and server must have the same software release, or you could encounter problems with the database. Refer to the *Nortel Symposium Call Center Server Software Installation Guide* for more information about installing the MAT Navigator and Client software.

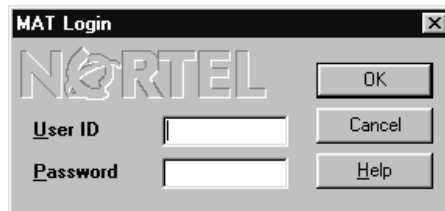
Running the MAT Navigator To launch the MAT Navigator, follow these steps.

Starting Point: Windows 95 Start button

Step	Action

1	From the Start menu, select Programs → Mat → Navigator.

Result: The MAT Login dialog appears.

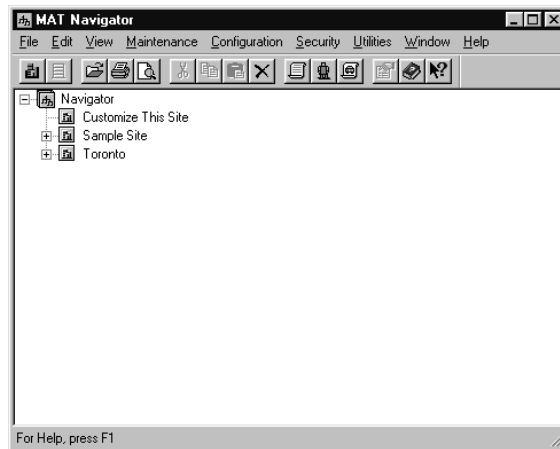


2	Enter your user ID and password.

Note: If you do not know this information, contact your Nortel representative.

Result: The MAT Navigator window appears.

Step Action

**Configuring the connection**

To configure the 1001t Server connection from a remote PC, follow these steps.

Starting Point: MAT Navigator system window

Step Action

- 1 Double-click the Site icon.
Result: The Site Properties Page opens.
- 2 Click the Add System button.
- 3 From the Add System dialog box, select Symposium and click OK.
Result: The New System Properties page opens.
- 4 Enter the full name of the Symposium Call Center Server to connect with in the System Name box.
- 5 Enter a short form of the server name in the Short Name box.

Step Action

- 6 Enter the system location information.
Note: If the location information matches the location displayed on the Site Properties page, select the Same As Site check box.
- 7 Enter the Contact Information.
Note: If the contact information matches the contact displayed on the Site Properties page, select the Same As Site check box.
- 8 Click Apply.
Result: The Property Page title changes to include the name of the new system connection.
- 9 Select the Communications tab, then click Add.
Result: The Add Communications Profile box opens.
- 10 Enter the Profile Type for the communications setup required.
- 11 Select PPP from the Communications Protocol Type list, then click OK.
Result: A detailed profile is displayed on the Communications page.
- 12 Review the connection parameters for the communications profile.
- 13 Enter System Access and Network Protocol information.
Note: Select PPP for Modem Script.
- 14 Select TCP/IP.
- 15 Enter the IP address of the system, then click Apply.
- 16 Select the Applications tab.
- 17 From the Communications Profile selection list, click the name of the profile just created.

Step Action

- 18 Click Apply to save the profile setup, then click OK to close the property page.

Result: The new connection profile is displayed in the MAT Navigator system window.

Connecting to the Symposium Call Center Server

To connect to the Symposium Call Center Server from a remote client PC, follow these steps.

Starting Point: MAT Navigator system window

Step Action

- 1 From the list of configured server locations, double-click the Symposium Site icon.

Result: The Connection Manager window opens, providing a status display. Once the connection has been made, the Site Login box opens.

- 2 Enter your User ID and Password, then click OK to continue.

Result: The Symposium Call Center Server System window opens.

Note: The Connection Manager window displays the history of a connection in progress. If the connection fails, review the history listing for configuration errors. The top entries are the most recent.

Closing the connection

To close the remote connection to the Symposium Call Center Server and the MAT Navigator, follow these steps.

Starting Point: The Symposium Call Center Server System window (on the remote PC)

Step Action

- 1 From the System window menu, choose File → Close.
Result: The remote connection to the server is closed.
 - 2 In the MAT system window, select Exit from the File menu.
Result: The MAT Exit dialog box opens.
 - 3 Click Terminate MAT to close MAT and end any programs that may be running, then click OK.
Result: Your Symposium Call Center Server and MAT sessions are terminated.
Note: To launch other applications or log on as a different user, log out of the system but keep MAT running. If the MAT is already configured and a shortcut has already been created, connection can be established through the shortcut only; there is no need to run MAT.
-

Section D: Restarting the server remotely

In this section

Overview of restarting the server remotely	10-34
Restarting the server remotely	10-35

Overview of restarting the server remotely

Introduction

You can restart the server from the remote computer. You might want to do this, for example, to run POST diagnostics.

Restarting the server remotely

Purpose This section provides instructions for restarting the server from a remote computer, using Windows NT or Windows 95.

Restarting the server using Windows NT To restart the server from the remote workstation using RAS, follow these steps in Windows NT.

Starting Point: The DOS command prompt on the remote support computer, not the server

Step	Action

1	Using RAS, create an entry named "support" using the Symposium Call Center Server's modem number.
2	Connect to the Symposium Call Center Server with the NGenDesign or NGenDist login ID.
3	Open Notepad, or a similar application, on the support computer.
4	Open the following file: WinNT/System32/Drivers/etc/host.
5	Edit the file to include the Symposium Call Center Server computer and remote IP address. Example: 47.1.1.1 myhostname
6	Save the changes.
7	Execute the shutdown with the options -h <name> and -n <number> for callback included.

Example: Type **shutdown -h myhostname -n 4165971111**.

Note: If the RAS or Dialup Networking entry used to connect to the server is not supported, you can specify the correct name using the -e <RAS entry name> option.

Step Action

Result: The remote server reboots after five minutes and startup information is displayed in the terminal emulation window. You can execute diagnostics by selecting DOS in the boot sequence.

8 After reboot is complete, close the terminal emulation window.

Restarting the server using Windows 95

To restart the server from a remote computer using RAS, follow these steps in Windows 95.

Starting Point: The Windows 95 Start button (on the remote support computer)

Step Action

- 1 Establish a remote network connection to the host.
Note: Follow the Windows 95 procedures outlined in "Accessing the 1001t Server from a remote site" on page 10-22.
 - 2 Execute the shutdown command with the options -n <number> and -r.
 - 3 Terminate the remote networking connection.
 - 4 Start the Windows 95 Hyperterminal.
Result: If a dial-up networking connection has not been defined, the Windows 95 Modem Wizard opens. Click the Comm Port setting for your computer from the selection list provided, then click Next.
 - 5 From the Port Setting Window, set the Bits per second to 19200, then click Finish to close the window.
 - 6 In the Hyperterminal window, type **ATS0=1**, then press Enter.
Result: This sets the modem to auto-answer. All diagnostics are displayed in the Hyperterminal window.
 - 7 After reboot is complete, close the hyperterminal.
-

Appendix A

Nortel Symposium Call Center Server event codes

In this appendix

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Overview

Introduction

This appendix contains a list of the event codes generated by Nortel Symposium Call Center Server. The following information is provided for each event code:

Event code	The number by which the event is identified.
Severity	The severity of the event.
Description	A brief description of the event.
Recovery path	The action required to solve the problem.

Severity

There are five severity levels: critical, major, minor, information, and debug.

Critical

Critical events are those that may cause a system failure. These events require immediate attention.

Major

Major event codes are errors that may have a serious impact on the system. These events require immediate attention.

Minor

Minor event codes are generally low-impact errors or warnings. The system should continue to function; however, these events should not be ignored.

Information

Most information events are status messages that require no action. However, some may indicate a system problem.

Debug

Debug events are for internal Nortel use only. Record any event codes in the event log that accompany a debug event, and report them to your Nortel support representative.

Access Link Handler event codes (40301 to 40333)

Introduction

The following section lists the Access Link Handler event codes (40301 to 40333) generated by Symposium server features.

Access Link Handler event codes (40301 to 40333)	
Event code	40301
Severity	Information
Description	The Access Link Handler started successfully.
Recovery path	None
Event code	40302
Severity	Information
Description	The Access Link Handler counters have been reset to zero.
Recovery path	None
Event code	40303
Severity	Minor
Description	The Access Link Handler keeps certain configuration data in the registry. The key for this data did not exist when the link handler was started, so a new key was created.
Recovery path	Check the Installation log to ensure that the link handler was properly installed.
Event code	40304
Severity	Minor
Description	A message cannot be transmitted on the Access link because the retry counter exceeded the maximum allowed.
Recovery path	Check the communication link between the Symposium Server and Meridian Mail.

Access Link Handler event codes (40301 to 40333)	
Event code	40305
Severity	Information
Description	Communication between the link handler and Meridian Mail has been established.
Recovery path	None
Event code	40306
Severity	Minor
Description	Meridian Mail is not responding to messages from the link handler.
Recovery path	Check the Meridian Mail system and the serial port cabling.
Event code	40307
Severity	Major
Description	The connection with Meridian Mail has been terminated by Meridian Mail or due to a link problem.
Recovery path	Check the Meridian Mail system and the serial port cabling.
Event code	40308
Severity	Major
Description	An error condition in the link handler has forced a thread to terminate.
Recovery path	If the problem persists, contact Nortel support.
Event code	40309
Severity	Minor
Description	The link handler has not received a packet from Meridian Mail in a preset number of seconds. The link may be down.
Recovery path	Check the Meridian Mail system and the serial port cabling.
Event code	40310

Access Link Handler event codes (40301 to 40333)	
Severity	Information
Description	The link handler received an unknown control code from the System Manager. The code was ignored.
Recovery path	None
Event code	40311
Severity	Major
Description	The link handler service encountered a fatal error from which it cannot recover.
Recovery path	Contact Nortel support.
Event code	40312
Severity	Major
Description	Valid communication ports are COM1 to COM256. A port outside this range was specified.
Recovery path	Correct the communication port specification.
Event code	40313
Severity	Information
Description	The link handler received a signal it did not recognize.
Recovery path	If the problem persists, contact Nortel support.
Event code	40314
Severity	Major
Description	At start-up, the link handler cannot initialize the semaphores and memory it requires for internal communication.
Recovery path	Check for system resource problems. If the problem persists, contact Nortel support.
Event code	40315

Access Link Handler event codes (40301 to 40333)	
Severity	Information
Description	Data arriving from Meridian Mail is put into a buffer for processing. If the buffer is full, the data packet is dropped. Meridian Mail will retransmit the data.
Recovery path	None
Event code	40316
Severity	Information
Description	A client connects to the link handler as either an Access or Telephony Server Manager client. An unknown client type attempted to connect.
Recovery path	None
Event code	40317
Severity	Minor
Description	This message was not addressed to an Access client or Telephony Server Manager.
Recovery path	None
Event code	40318
Severity	Major
Description	The link handler is experiencing communication problems with a client.
Recovery path	Close unnecessary applications. If the problem persists, restart the client.
Event code	40319
Severity	Major
Description	A full message cannot be written to the serial port for transmission to Meridian Mail.

Access Link Handler event codes (40301 to 40333)	
Recovery path	There may be a load-related problem. Close all unnecessary applications.
Event code	40322
Severity	Minor
Description	A message from Meridian Mail was addressed to an unknown client.
Recovery path	If the problem persists, contact Nortel support.
Event code	40323
Severity	Major
Description	The link handler was unable to read the Access serial port configuration from the database. The default values in the registry are being used for the speed and device number. The link may not be functional.
Recovery path	Ensure that the database is operational and that there is an Access serial port configured.
Event code	40324
Severity	Major
Description	The link handler was unable to initialize the network layer required for communication with client programs. Access client programs will be unable to communicate with the Server.
Recovery path	Ensure that the network is operational. If the problem persists, contact Nortel support.
Event code	40325
Severity	Major
Description	The link handler cannot obtain the memory required for its initialization from the Operating System.
Recovery path	Close all unnecessary applications.

Access Link Handler event codes (40301 to 40333)	
Event code	40326
Severity	Major
Description	A message cannot be written to a client or to Meridian Mail.
Recovery path	Close all unnecessary application windows.
Event code	40327
Severity	Major
Description	The link handler cannot read configuration data from the Windows NT registry.
Recovery path	Contact Nortel support.
Event code	40328
Severity	Major
Description	A Win32 error was reported when the communication buffer was cleared.
Recovery path	Note any error codes and contact Nortel support.
Event code	40329
Severity	Major
Description	A Win32 error was reported when the client thread was to be created.
Recovery path	Close all unnecessary application windows.
Event code	40330
Severity	Major
Description	A serial port cannot be opened for communication.
Recovery path	Close all unnecessary applications and run diagnostics on the serial port.
Event code	40331

Access Link Handler event codes (40301 to 40333)	
Severity	Major
Description	A Win32 error was returned when a ReadFile was attempted on a serial port.
Recovery path	Check the serial port cabling and run diagnostics on the serial port hardware.
Event code	40332
Severity	Major
Description	A Win32 Error was returned when an attempt was made to connect to a named pipe.
Recovery path	Restart the client.
Event code	40333
Severity	Major
Description	The link handler cannot create named pipe for communication with a client process.
Recovery path	Note any error codes and contact Nortel support.

Diagnostic event codes (40401 to 40419)

Introduction

The following section lists the Diagnostic event codes (40401 to 40419) generated by Symposium server features.

Diagnostic event codes (40401 to 40419)	
Event code	40401
Severity	Critical
Description	Due to a software bug, a pointer reference is invalid.
Recovery path	Note any error codes and contact Nortel support.
Event code	40402
Severity	Major
Description	Unexpected Win32 (operating system) error.
Recovery path	Note any error codes and contact Nortel support.
Event code	40403
Severity	Critical
Description	An invalid device handle caused by a software bug was detected.
Recovery path	Note any error codes and contact Nortel support.
Event code	40404
Severity	Critical
Description	An invalid parameter caused by a software bug was passed to a procedure.
Recovery path	Note any error codes and contact Nortel support.
Event code	40405
Severity	Critical

Diagnostic event codes (40401 to 40419)	
Description	The access to Windows NT registry entry for Symposium Server service failed.
Recovery path	Run the install program to ensure that all base services have registry entries created properly.
Event code	40406
Severity	Critical
Description	There is not enough memory available to allocate to the application.
Recovery path	Note any error codes and contact Nortel support.
Event code	40407
Severity	Critical
Description	A software bug in an ANSI string cannot be converted to UNICODE format.
Recovery path	Note any error codes and contact Nortel support.
Event code	40408
Severity	Major
Description	The specified file cannot be opened.
Recovery path	Note any error codes and contact Nortel support.
Event code	40409
Severity	Major
Description	The specified file cannot be opened.
Recovery path	Note any error codes and contact Nortel support.
Event code	40410
Severity	Major
Description	The specified file cannot be parsed.

Diagnostic event codes (40401 to 40419)	
Recovery path	Note any error codes and contact Nortel support.
Event code	40411
Severity	Major
Description	The attributes for the specified file cannot be changed.
Recovery path	Note any error codes and contact Nortel support.
Event code	40412
Severity	Major
Description	There is a problem copying from source to target file.
Recovery path	Note any error codes and contact Nortel support.
Event code	40413
Severity	Major
Description	The Fault Management Server did not start.
Recovery path	Note any error codes and contact Nortel support.
Event code	40414
Severity	Major
Description	The Fault Management Server did not start.
Recovery path	Note any error codes and contact Nortel support.
Event code	40415
Severity	Critical
Description	A fault was detected by start-up diagnostics at bootup.
Recovery path	Note any error codes and contact Nortel support.
Event code	40416
Severity	Minor

Diagnostic event codes (40401 to 40419)	
Description	An unrecognized diagnostic failed at start-up.
Recovery path	Ensure that the most up-to-date diagnostics software is installed. If the problem persists, contact Nortel support.
Event code	40417
Severity	Information
Description	None of the start-up diagnostics failed.
Recovery path	None
Event code	40418
Severity	Major
Description	The specified file path was expected but not found.
Recovery path	Ensure that both PCDIAGS were installed and that the installation program was run successfully.
Event code	40419
Severity	Major
Description	The specified file was expected but not found.
Recovery path	Ensure that the installation program was run successfully.

Fault Manager event codes (40501 to 40576)

Introduction

The following section lists the Fault Manager event codes (40501 to 40576) generated by Symposium server features.

Fault Manager event codes (40501 to 40576)	
Event code	40501
Severity	Information
Description	The fault management server has started.
Recovery path	None
Event code	40502
Severity	Information
Description	The fault management server is shutting down.
Recovery path	None
Event code	40503
Severity	Debug
Description	This event provides information that may be valuable in debugging database errors.
Recovery path	Pass this information on to your Nortel representative.
Event code	40504
Severity	Information
Description	The specified number of clients did not respond when events were being forwarded to them.

Fault Manager event codes (40501 to 40576)	
Recovery path	Follow these steps: 1 Check and resolve any network problems. 2 Check and restore the Client or its host if they are having any problems. 3 Shut down and restart the Event Monitoring application. 4 If the problem persists, contact Nortel support.
Event code	40505
Severity	Major
Description	The fault manager is having problems connecting to the database. This problem may result in incomplete event information (such as severity, managed objects name, and instance). Any application, such as the security server, requesting database information from the fault manager may also encounter problems.
Recovery path	Ensure that the database is running.
Event code	40511
Severity	Debug
Description	This event contains information that may be required by the software design group for debugging the problem. Save this information.
Recovery path	None
Event code	40512
Severity	Major
Description	The fault manager encountered problems starting up. Until this Server is up, none of the fault-related applications will be functional.

Fault Manager event codes (40501 to 40576)	
Recovery path	Follow these steps: 1 Look up the return code provided in this event for any recommended actions. 2 If this problem occurred during a system reboot, then try rebooting the system. 3 If the problem persists, contact Nortel support.
Event code	40513
Severity	Minor
Description	The fault manager encountered problems while shutting down. The server may still be running or may not have cleaned up properly before it went down.
Recovery path	Follow these steps: 1 Try shutting the server down again. 2 If the fault server is still running, reboot the system to clean it up. 3 If the problem persists, contact Nortel support.
Event code	40516
Severity	Minor
Description	The connection between a client requesting the event log and the fault manager has been prematurely terminated. As a result, the logs were not retrieved. All cleanup after this problem has been successful.
Recovery path	Follow these steps: 1 Retry the operation to retrieve the logs. 2 Find out whether other network communications are having problems. If so, resolve any network problems. 3 If the problem persists, contact Nortel support.
Event code	40517
Severity	Minor

Fault Manager event codes (40501 to 40576)	
Description	The connection between a Client requesting the event log and the fault manager has been prematurely terminated. As a result, the logs were not retrieved. Also, any cleanup after this problem has failed. A temporary file containing the event log may not have been deleted.
Recovery path	Follow these steps: 1 Check the Nortel\bin directory for a TMP file created at the time of this event. 2 Delete this file. 3 Retry the operation to retrieve the logs. 4 Find out whether other network communications are having problems. If so, resolve any network problems. 5 If the problem persists, contact Nortel support.
Event code	40575
Severity	Information
Description	Indicates the start of throttling for an event code. Events are throttled if the number of occurrences of the event exceeds the configured threshold within the configured duration.
Recovery path	None
Event code	40576
Severity	Information
Description	Indicates the end of a throttling interval. All the throttled events are listed along with the number of occurrences of the event throttled. The number of occurrences is specified beside the event code.
Recovery path	None

Configuration event codes (40704 to 40799)

Introduction

The following section lists the Configuration event codes (40704 to 40799) generated by Symposium server features.

Configuration event codes (40704 to 40799)	
Event code	40704
Severity	Major
Description	The configuration service failed to start.
Recovery path	Restart the system.
Event code	40742
Severity	Minor
Description	Failed to configure the serial port settings.
Recovery path	Follow these steps: 1 Ensure that the serial port is not being used by another application. 2 Log out, log in again, and retry the command. 3 If the problem persists, contact Nortel support.
Event code	40745
Severity	Minor
Description	Failed to get the time zone from the Symposium Server.
Recovery path	Set the time zone on the server.
Event code	40746
Severity	Minor
Description	Failed to get the CPU, disk, or memory usage performance data from the Symposium Server.
Recovery path	If the problem persists, contact Nortel support.

Configuration event codes (40704 to 40799)	
Event code	40748
Severity	Information
Description	The Symposium configuration server has shut down by request.
Recovery path	None
Event code	40749
Severity	Information
Description	The configuration server forced shutdown with no cleanup by request.
Recovery path	None
Event code	40751
Severity	Information
Description	The serial port setting has changed. Broadcast to all programs has been requested.
Recovery path	None
Event code	40752
Severity	Major
Description	Failed to communicate with the Symposium security server.
Recovery path	Note any error codes and contact Nortel support.
Event code	40753
Severity	Minor
Description	Disk space has exceeded the 95% threshold.
Recovery path	Note any error codes and contact Nortel support.
Event code	40799
Severity	Debug

Configuration event codes (40704 to 40799)	
Description	This is a debug code for internal use.
Recovery path	None

Security event codes (40803 to 40899)

Introduction

The following section lists the security event codes (40803 to 40899) generated by Symposium server features.

Security event codes (40803 to 40899)	
Event code	40803
Severity	Major
Description	The security management service failed to start.
Recovery path	Note any error codes and contact Nortel support.
Event code	40804
Severity	Major
Description	The security management service failed to shut down.
Recovery path	Note any error codes and contact Nortel support.
Event code	40805
Severity	Major
Description	The security management service audit thread is not reliable.
Recovery path	Note any error codes and contact Nortel support.
Event code	40806
Severity	Information
Description	Security management PC user login notification.
Recovery path	None
Event code	40807
Severity	Major
Description	Login failed (for anything other than invalid desktop user or password).

Security event codes (40803 to 40899)	
Recovery path	Note any error codes and contact Nortel support.
Event code	40810
Severity	Information
Description	The maximum number of login sessions for security management has been reached.
Recovery path	Advise users that are not active to log out.
Event code	40812
Severity	Information
Description	Security management PC user login password authentication error
Recovery path	None
Event code	40813
Severity	Minor
Description	Security management locked out a PC user after three invalid login attempts. The user must be reinstated to be able to log in.
Recovery path	Refer to the <i>Symposium Call Center System Administration Guide</i> (P0874113) for information on reinstating the user.
Event code	40814
Severity	Information
Description	Security management session validation error
Recovery path	None
Event code	40815
Severity	Information
Description	Security management PC user logout notification
Recovery path	None

Security event codes (40803 to 40899)	
Event code	40816
Severity	Minor
Description	Security management PC user logout error. The user cannot log in again until the problem is resolved.
Recovery path	Note any error codes and contact Nortel support.
Event code	40820
Severity	Information
Description	PC user forced logout notification
Recovery path	None
Event code	40821
Severity	Minor
Description	PC user forced logout error
Recovery path	Note any error codes and contact Nortel support.
Event code	40823
Severity	Information
Description	Add Blue user notification
Recovery path	None
Event code	40824
Severity	Minor
Description	Add Blue user error
Recovery path	Note any error codes and contact Nortel support.
Event code	40825
Severity	Minor

Security event codes (40803 to 40899)	
Description	Get Blue user error
Recovery path	Note any error codes and contact Nortel support.
Event code	40826
Severity	Information
Description	Modify Blue user notification
Recovery path	None
Event code	40827
Severity	Minor
Description	Modify Blue user error
Recovery path	Note any error codes and contact Nortel support.
Event code	40828
Severity	Information
Description	Delete Blue user notification.
Recovery path	None
Event code	40829
Severity	Minor
Description	Delete Blue user error.
Recovery path	Note any error codes and contact Nortel support.
Event code	40830
Severity	Information
Description	Add PC user notification.
Recovery path	None
Event code	40831

Security event codes (40803 to 40899)	
Severity	Minor
Description	Add PC user error.
Recovery path	Note any error codes and contact Nortel support.
Event code	40832
Severity	Minor
Description	Get PC user error.
Recovery path	Note any error codes and contact Nortel support.
Event code	40833
Severity	Information
Description	Modify PC user notification.
Recovery path	None
Event code	40834
Severity	Minor
Description	Modify PC user error.
Recovery path	Note any error codes and contact Nortel support.
Event code	40835
Severity	Information
Description	Delete PC user notification.
Recovery path	None
Event code	40836
Severity	Minor
Description	Delete PC user error.
Recovery path	Note any error codes and contact Nortel support.

Security event codes (40803 to 40899)	
Event code	40837
Severity	Debug
Description	Security server debug notification.
Recovery path	Note any error codes and contact Nortel support.
Event code	40838
Severity	Major
Description	The security server cannot connect to the database.
Recovery path	Note any error codes and contact Nortel support.
Event code	40839
Severity	Information
Description	Security management add access class notification
Recovery path	None
Event code	40839
Severity	Information
Description	Security management add access class notification
Recovery path	None
Event code	40840
Severity	Minor
Description	Security management add access class error
Recovery path	Note any error codes and contact Nortel support.
Event code	40841
Severity	Information
Description	Security management get access class notification

Security event codes (40803 to 40899)	
Recovery path	None
Event code	40842
Severity	Minor
Description	Security management get access class error
Recovery path	Note any error codes and contact Nortel support.
Event code	40843
Severity	Information
Description	Security management modify access class notification
Recovery path	None
Event code	40844
Severity	Minor
Description	Security management modify access class error
Recovery path	Note any error codes and contact Nortel support.
Event code	40845
Severity	Information
Description	Security management delete access class notification
Recovery path	None
Event code	40846
Severity	Minor
Description	Security management delete access class notification
Recovery path	Note any error codes and contact Nortel support.
Event code	40847
Severity	Information

Security event codes (40803 to 40899)	
Description	Security management attach user to access class notification
Recovery path	None
Event code	40848
Severity	Minor
Description	Security management attach user to access class error
Recovery path	Note any error codes and contact Nortel support.
Event code	40849
Severity	Information
Description	Security management detach user from access class notification
Recovery path	None
Event code	40850
Severity	Minor
Description	Security management detach user from access class error
Recovery path	Note any error codes and contact Nortel support.
Event code	40851
Severity	Information
Description	Security management get access classes of users notification
Recovery path	None
Event code	40852
Severity	Minor
Description	Security management get access classes of users error
Recovery path	Note any error codes and contact Nortel support.
Event code	40853

Security event codes (40803 to 40899)	
Severity	Information
Description	Security management get users in access class notification
Recovery path	None
Event code	40854
Severity	Minor
Description	Security management get users in access class error
Recovery path	Note any error codes and contact Nortel support.
Event code	40855
Severity	Information
Description	Security management get session capabilities notification
Recovery path	None
Event code	40856
Severity	Minor
Description	Security management get session capabilities error
Recovery path	Note any error codes and contact Nortel support.
Event code	40857
Severity	Information
Description	Security management add ACL notification
Recovery path	None
Event code	40858
Severity	Minor
Description	Security management add ACL error
Recovery path	Note any error codes and contact Nortel support.

Security event codes (40803 to 40899)	
Event code	40859
Severity	Information
Description	Security management get ACL notification
Recovery path	None
Event code	40860
Severity	Minor
Description	Security management get ACL error
Recovery path	Note any error codes and contact Nortel support.
Event code	40861
Severity	Information
Description	Security management delete ACL notification
Recovery path	None
Event code	40862
Severity	Minor
Description	Security management delete ACL error
Recovery path	Note any error codes and contact Nortel support.
Event code	40863
Severity	Information
Description	Security management add ACE notification
Recovery path	None
Event code	40864
Severity	Minor
Description	Security management add ACE error

Security event codes (40803 to 40899)	
Recovery path	Note any error codes and contact Nortel support.
Event code	40865
Severity	Information
Description	Security management get ACE notification
Recovery path	None
Event code	40866
Severity	Minor
Description	Security management get ACE error
Recovery path	Note any error codes and contact Nortel support.
Event code	40867
Severity	Information
Description	Security management modify ACE notification
Recovery path	None
Event code	40868
Severity	Minor
Description	Security management modify ACE error
Recovery path	Note any error codes and contact Nortel support.
Event code	40869
Severity	Information
Description	Security management delete ACE notification
Recovery path	None
Event code	40870
Severity	Minor

Security event codes (40803 to 40899)	
Description	Security management delete ACE error
Recovery path	Note any error codes and contact Nortel support.
Event code	40877
Severity	Critical
Description	An error occurred due to an NBdbu API call. A desktop user cannot be added, deleted, modified, or granted rights. The error occurred in the system part of the database.
Recovery path	Verify that the system is installed properly and is not corrupted.
Event code	40899
Severity	Information
Description	Security server has started successfully.
Recovery path	None

Support Access event codes (41101 to 41195)

Introduction

The following section lists the Support Access event codes (41101 to 41195) generated by Symposium server features.

Support Access event codes (41101 to 41195)	
Event code	41101
Severity	Minor
Description	Could not initiate system shutdown
Recovery path	Ensure that the user has shutdown privilege.
Event code	41102
Severity	Minor
Description	Could not get shutdown process security token
Recovery path	Ensure that the user has administrative privilege.
Event code	41103
Severity	Minor
Description	Could not delete system shutdown job
Recovery path	Ensure that the correct job number was specified.
Event code	41104
Severity	Minor
Description	Could not enumerate RAS connection information
Recovery path	Close some of the unused connections or specify the -r option to skip RAS operations.
Event code	41105
Severity	Minor
Description	Could not find the specified RAS entry

Support Access event codes (41101 to 41195)	
Recovery path	Ensure that the RAS entry is the one connected to the desired Symposium server.
Event code	41106
Severity	Minor
Description	The user on server requesting shutdown does not have the remote shutdown privilege
Recovery path	Ensure that the user has the remote shutdown privilege.
Event code	41107
Severity	Minor
Description	Could not hang up the RAS connection
Recovery path	Disconnect the RAS connection manually using RAS connection manager.
Event code	41108
Severity	Minor
Description	The specified parameter is invalid.
Recovery path	Enter a valid parameter. You can display valid parameters using the -? Option.
Event code	41109
Severity	Minor
Description	The terminal emulator cannot be started.
Recovery path	Ensure that the terminal command is valid and in the system path. You can override the default terminal command using the -t option.
Event code	41110
Severity	Minor

Support Access event codes (41101 to 41195)	
Description	The shutdown process on the server does not have the local shutdown privilege.
Recovery path	Ensure that the user has local shutdown privilege.
Event code	41111
Severity	Minor
Description	Could not give the shutdown process local shutdown privilege
Recovery path	Ensure that the user account on the server has administrative privilege.
Event code	41112
Severity	Minor
Description	Could not schedule system shutdown job
Recovery path	Ensure that the scheduling service is running on the Client and the server.
Event code	41113
Severity	Minor
Description	Could not find the specified COM port
Recovery path	Ensure that the correct COM port is specified. You can override the default using the -p option.
Event code	41114
Severity	Minor
Description	The COM port cannot be opened.
Recovery path	Ensure that the COM port is not being used by another process.
Event code	41115
Severity	Minor
Description	An error occurred when sending information to the COM port.

Support Access event codes (41101 to 41195)	
Recovery path	Ensure that the COM port is working.
Event code	41117
Severity	Information
Description	A system shutdown has been initiated and will begin in 60 seconds.
Recovery path	None
Event code	41118
Severity	Minor
Description	Could not find the specified COM port
Recovery path	Ensure that the correct COM port is specified.
Event code	41141
Severity	Minor
Description	A null pointer was passed to COM port state setup utility.
Recovery path	Ensure that there is enough memory available to allocate COM information (500 bytes).
Event code	41143
Severity	Minor
Description	Could not write to the COM port
Recovery path	Ensure that the COM port is working. Verify that the COM port is connected to a cable, and that the cable is in working order.
Event code	41144
Severity	Minor
Description	Could not read modem response
Recovery path	Ensure that the modem is working.
Event code	41145

Support Access event codes (41101 to 41195)	
Severity	Minor
Description	Could not set the COM port state
Recovery path	Ensure that the COM port is working.
Event code	41146
Severity	Minor
Description	Could not allocate COM state buffer
Recovery path	Ensure that there is enough memory available on the system.
Event code	41147
Severity	Minor
Description	Could not open the COM port
Recovery path	Ensure that the COM port is not in use by another application.
Event code	41148
Severity	Minor
Description	Could not close the COM port
Recovery path	Ensure that the COM port is working.
Event code	41149
Severity	Minor
Description	Could not find the specified COM port
Recovery path	Ensure that the correct COM port is specified. Specify a COM port using the -p option.
Event code	41151
Severity	Minor
Description	Could not convert the modem string from UNICODE

Support Access event codes (41101 to 41195)	
Recovery path	Note any error codes and contact Nortel support.
Event code	41152
Severity	Minor
Description	Could not get the COM state
Recovery path	Ensure that the COM port is working.
Event code	41153
Severity	Minor
Description	Could not set the COM mask
Recovery path	Ensure that the COM port is working.
Event code	41154
Severity	Minor
Description	Could not set up the COM port read and write buffers
Recovery path	Ensure that the COM port is working.
Event code	41155
Severity	Minor
Description	Could not set the COM port timeouts
Recovery path	Ensure that the COM port is working.
Event code	41156
Severity	Minor
Description	Could not clear the COM port DTR signal
Recovery path	Ensure that the COM port is working.
Event code	41157
Severity	Minor

Support Access event codes (41101 to 41195)	
Description	Could not clear the COM port I/O buffers
Recovery path	Ensure that the COM port is working.
Event code	41180
Severity	Minor
Description	Could not access the server with the requested privileges
Recovery path	Ensure that the installation account has administrative privileges.
Event code	41181
Severity	Minor
Description	Could not find the specified account
Recovery path	Ensure that the account exists.
Event code	41182
Severity	Minor
Description	Could not copy the domain security ID
Recovery path	Contact Nortel support.
Event code	41183
Severity	Minor
Description	Could not allocate memory for the security ID
Recovery path	Ensure that there is enough memory available on the system.
Event code	41184
Severity	Minor
Description	Could not add privileges to the group
Recovery path	Ensure that the installation account has administrative privileges and that the group exists.

Support Access event codes (41101 to 41195)	
Event code	41185
Severity	Minor
Description	Could not find user to add to the group
Recovery path	If the required SID size is greater than 128, or if the required domain size is greater than 4096, then there is an internal software error. Contact Nortel support. Otherwise, verify that the user account exists.
Event code	41186
Severity	Minor
Description	Unable to add user to group
Recovery path	Ensure that the group exists.
Event code	41187
Severity	Minor
Description	Could not get group information
Recovery path	Ensure that a valid Server was specified.
Event code	41188
Severity	Minor
Description	Could not get user information
Recovery path	Ensure that a valid Server was specified.
Event code	41189
Severity	Minor
Description	An invalid option or parameter was specified
Recovery path	Ensure that the parameter was correct. Use the -? Option for help.
Event code	41190
Severity	Minor

Support Access event codes (41101 to 41195)	
Description	Could not delete the specified group
Recovery path	Ensure that the user has administrative privileges and that the group exists.
Event code	41191
Severity	Minor
Description	Could not add the specified user
Recovery path	Ensure that the account has administrative privileges and that the user does not already exist.
Event code	41192
Severity	Minor
Description	Could not add local group
Recovery path	Ensure that the account has administrative privileges and that the group does not already exist.
Event code	41193
Severity	Minor
Description	Could not delete the specified user
Recovery path	Ensure that the account has administrative privileges and that the user exists.
Event code	41194
Severity	Minor
Description	Could not get information for the specified user
Recovery path	Ensure that the user exists.
Event code	41195
Severity	Minor
Description	Could not modify user information to give RAS dial-in privileges

Support Access event codes (41101 to 41195)

Recovery path	Ensure that the installation account has administrative privileges and that the user exists.

Serial Port Test event codes (41301 to 41348)

Introduction

The following section lists the Serial Port Test event codes (41301 to 41348) generated by Symposium server features.

Note: The TSTSERIO utility should be run only by support personnel.

Serial Port Test event codes (41301 to 41348)	
Event code	41301
Severity	Major
Description	Unexpected error
Recovery path	Note any error codes and contact Nortel support.
Event code	41302
Severity	Critical
Description	A software configuration or hardware error is preventing COM port from being placed in internal loopback diagnostic mode.
Recovery path	Note any error codes and contact Nortel support.
Event code	41303
Severity	Critical
Description	A software configuration or hardware error is preventing COM port from being taken out of internal loopback diagnostic mode (no loopback plug required).
Recovery path	Note any error codes and contact Nortel support.
Event code	41304
Severity	Critical
Description	The pointer reference is invalid due to a software bug.
Recovery path	Note any error codes and contact Nortel support.

Serial Port Test event codes (41301 to 41348)	
Event code	41305
Severity	Critical
Description	An invalid device name caused by a software bug was detected.
Recovery path	Note any error codes and contact Nortel support.
Event code	41306
Severity	Critical
Description	An invalid device handle caused by a software bug was detected.
Recovery path	Note any error codes and contact Nortel support.
Event code	41307
Severity	Critical
Description	An invalid event handle caused by a software bug was detected.
Recovery path	Note any error codes and contact Nortel support.
Event code	41308
Severity	Information
Description	The specified device is already in use by another process.
Recovery path	None
Event code	41309
Severity	Critical
Description	No COM ports were detected. Usually associated with a software configuration problem.
Recovery path	Note any error codes and contact Nortel support.
Event code	41310
Severity	Critical

Serial Port Test event codes (41301 to 41348)	
Description	The requested test is not supported by the device driver used for the specified device. This indicates a potential software configuration problem.
Recovery path	Note any error codes and contact Nortel support.
Event code	41311
Severity	Critical
Description	The operating system returned an unexpected result from a Wait API (due to a software bug).
Recovery path	Note any error codes and contact Nortel support.
Event code	41312
Severity	Critical
Description	The operating system detects an unexpected Event (due to a software bug).
Recovery path	Note any error codes and contact Nortel support.
Event code	41313
Severity	Critical
Description	Input/output operation timed out. This may either be a result of a bad hardware configuration (for example, the test may require a loopback plug which is not present), or a hardware fault.
Recovery path	Note any error codes and contact Nortel support.
Event code	41314
Severity	Information
Description	The software for the specified device does not support the requested test due to hardware limitations. This is acceptable because the diagnostic coverage for the device in question is more than adequate when the supported tests are run.

Serial Port Test event codes (41301 to 41348)	
Recovery path	None
Event code	41315
Severity	Critical
Description	There is not enough memory available to allocate to this application.
Recovery path	Note any error codes and contact Nortel support.
Event code	41318
Severity	Information
Description	An invalid command line argument was entered.
Recovery path	None
Event code	41319
Severity	Information
Description	An expected command line argument was not entered.
Recovery path	None
Event code	41320
Severity	Information
Description	A character after a / or - on the command line is invalid.
Recovery path	None
Event code	41321
Severity	Information
Description	The command line entered was not recognized.
Recovery path	None
Event code	41322
Severity	Information

Serial Port Test event codes (41301 to 41348)	
Description	The same switch was entered more than once on the command line.
Recovery path	None
Event code	41332
Severity	Critical
Description	The internal loopback data compare test failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	41333
Severity	Critical
Description	The internal loopback modem control status register compare test failed. The specified COM port may have a problem interfacing with a modem.
Recovery path	Note any error codes and contact Nortel support.
Event code	41334
Severity	Critical
Description	The internal loopback baud data compare test failed. The specified COM port may have a problem operating at one of the available baud rates.
Recovery path	Note any error codes and contact Nortel support.
Event code	41335
Severity	Critical
Description	The internal loopback word size data compare test failed. The specified COM port may have a problem operating at one of the available word sizes.
Recovery path	Note any error codes and contact Nortel support.
Event code	41336

Serial Port Test event codes (41301 to 41348)	
Severity	Critical
Description	The internal loopback stop bits data compare test failed. The specified COM port may have a problem operating at one of the available stop bit modes.
Recovery path	Note any error codes and contact Nortel support.
Event code	41337
Severity	Critical
Description	The internal loopback parity size data compare test failed. The specified COM port may have a problem operating at one of the available parity modes.
Recovery path	Note any error codes and contact Nortel support.
Event code	41338
Severity	Critical
Description	The internal loopback First in First out (FIFO) data compare test failed. The specified COM port may have a problem operating when its FIFO is enabled.
Recovery path	Note any error codes and contact Nortel support.
Event code	41339
Severity	Major
Description	The external loopback interrupt test failed while expecting an interrupt for the DSR signal. The specified COM port may have a problem operating under Windows NT.
Recovery path	Note any error codes and contact Nortel support.
Event code	41340
Severity	Major

Serial Port Test event codes (41301 to 41348)	
Description	The external loopback interrupt test failed while expecting an interrupt for the Clear to Send (CTS) signal. The specified COM port may have a problem operating under Windows NT.
Recovery path	Note any error codes and contact Nortel support.
Event code	41341
Severity	Critical
Description	The external loopback interrupt test failed while expecting an interrupt for the Read Buffer Full (RxBF) signal. The specified COM port may have a problem operating under Windows NT.
Recovery path	Note any error codes and contact Nortel support.
Event code	41342
Severity	Critical
Description	The external loopback interrupt test failed while expecting an interrupt for the Transfer Buffer Empty (TxBE) signal. The specified COM port may have a problem operating under Windows NT.
Recovery path	Note any error codes and contact Nortel support.
Event code	41343
Severity	Major
Description	The external loopback interrupt test failed while expecting an interrupt for the Break signal. The specified COM port may have a problem operating under Windows NT.
Recovery path	Note any error codes and contact Nortel support.
Event code	41345
Severity	Minor
Description	The request to terminate the watch thread for the eint subtest did not get executed within the allotted time.

Serial Port Test event codes (41301 to 41348)	
Recovery path	Note any error codes and contact Nortel support.
Event code	41346
Severity	Major
Description	The received data for the external loopback data compare test was not equivalent to the submitted data.
Recovery path	Note any error codes and contact Nortel support.
Event code	41347
Severity	Major
Description	The external loopback modem status register test expecting the DSR signal to be set in response to the Dual Tone Receiver (DTR) failed. A modem may have a problem operating when connected to this COM port.
Recovery path	Note any error codes and contact Nortel support.
Event code	41348
Severity	Major
Description	The external loopback modem status register test expecting the Clear to Send (CTS) signal to be set in response to Ready to Send (RTS) failed. A modem may have a problem operating when connected to this COM port.
Recovery path	Note any error codes and contact Nortel support.

Database event codes (41405 to 41415)

Introduction

The following section lists the Database event codes (41405 to 41415) generated by Symposium server features.

Database event codes (41405 to 41415)	
Event code	41405
Severity	Major
Description	Unable to connect to the database for the specified user.
Recovery path	Follow these steps: Ensure that the database is running. Look for previous ODBC event logs in the Windows NT Application Event Log to determine the cause of the problem. Look for the following logs: SQL error logs SQL information logs If the problem persists, contact Nortel support.
Event code	41410
Severity	Major
Description	One of the modify parameters is null.
Recovery path	A software problem has occurred. Note relevant information from the Windows NT Application Event Log, as well as any error codes from the Symposium Event Browser, and contact Nortel support.
Event code	41411
Severity	Major
Description	Could not allocate required memory
Recovery path	Ensure that there is enough memory available on the system. If the problem persists, contact Nortel support.

Database event codes (41405 to 41415)	
Event code	41413
Severity	Minor
Description	No records found matching criteria
Recovery path	Verify that the Symposium Server is properly installed. If the problem persists, contact Nortel support.
Event code	41414
Severity	Information
Description	Describes any additional ODBC error information
Recovery path	This is an internal software error. Note any error codes and contact Nortel support.
Event code	41415
Severity	Information
Description	An SQL error has occurred.
Recovery path	This is an internal software error. Note any error codes and contact Nortel support.

System Manager event codes (41500 to 41599)

Introduction

The following section lists the System Manager event codes (41500 to 41599) generated by Symposium server features.

System Manager event codes (41500 to 41599)	
Event code	41500
Severity	Information
Description	The service is running.
Recovery path	None
Event code	41501
Severity	Information
Description	The service is stopping.
Recovery path	None
Event code	41502
Severity	Major
Description	The service cannot initialize its variables in order to start.
Recovery path	Follow these steps: 1 Restart the service. 2 This may solve the problem. If it does not, go to step 2. 3 Check the return code for more details. 4 If the problem persists, note any error messages and contact Nortel support.
Event code	41503
Severity	Major
Description	The service cannot initialize its threads in order to start.

System Manager event codes (41500 to 41599)	
Recovery path	Follow these steps: 1 Restart the service. 2 This may solve the problem. If it does not, go to step 2. 3 Check the return code for more details. 4 If the problem persists, note any error messages and contact Nortel support.
Event code	41504
Severity	Major
Description	The System Manager code encountered an unexpected situation.
Recovery path	Restart the service. This may solve the problem. If the problem persists, note any error messages and contact Nortel support.
Event code	41505
Severity	Major
Description	The service exited unexpectedly.
Recovery path	Follow these steps: 1 Restart the service. 2 This may solve the problem. If it does not, go to step 2. 3 Check the return code for more details. 4 If the problem persists, note any error messages and contact Nortel support.
Event code	41506
Severity	Major
Description	The service terminated unexpectedly.
Recovery path	The service cannot respond to the sanity poll. The System Manager will restart the service.
Event code	41507

System Manager event codes (41500 to 41599)	
Severity	Major
Description	The service crashed.
Recovery path	Follow these steps: 1 Restart the service. 2 This may solve the problem. If it does not, go to step 2. 3 Check the return code for more details. 4 If the problem persists, note any error messages and contact Nortel support.
Event code	41508
Severity	Minor
Description	The service received an unknown return code.
Recovery path	Note any error codes and contact Nortel support.
Event code	41509
Severity	Minor
Description	The specified process priority is invalid.
Recovery path	Note any error codes and contact Nortel support.
Event code	41510
Severity	Minor
Description	The service was requested to stop, but did not stop in the specified time.
Recovery path	Note any error codes and contact Nortel support.
Event code	41520
Severity	Information
Description	The System Manager service has not been started by Windows NT yet.

System Manager event codes (41500 to 41599)	
Recovery path	This report is normal at bootup. However, if it persists, look for other events to explain it. If System Manager cannot be started at bootup time, use the service applet to start it and see whether the problem reoccurs.
Event code	41521
Severity	Major
Description	The System Manager has restarted too many times and will not be started again by the software.
Recovery path	Check the event log for event reports that explain why the System Manager crashed.
Event code	41522
Severity	Minor
Description	The software cannot remove an item from the registry.
Recovery path	If no other events from this event range are reported, no action is required. Otherwise, check the return code and other events to identify the problem.
Event code	41523
Severity	Minor
Description	The software cannot get an item from the registry.
Recovery path	If no other events from this event range are reported, no action is required. Otherwise, check the return code and other events to identify the problem.
Event code	41524
Severity	Major
Description	The software cannot open the System Manager process.
Recovery path	Check the return code to identify the cause of the problem.

System Manager event codes (41500 to 41599)	
Event code	41525
Severity	Major
Description	Could not communicate with System Manager
Recovery path	Check the return code to identify the cause of the problem.
Event code	41526
Severity	Critical
Description	Could not start System Manager
Recovery path	Check the return code to identify the cause of the problem.
Event code	41527
Severity	Critical
Description	The System Manager has suddenly stopped, but will be restarted.
Recovery path	Check the event log.
Event code	41528
Severity	Major
Description	The System Manager daemon service has encountered a severe problem and is exiting. The System Manager will restart it.
Recovery path	Check the return code to identify the cause of the problem.
Event code	41529
Severity	Critical
Description	An unrecoverable error has occurred.
Recovery path	Follow these steps: 1 Reboot the system. 2 Check the return code to identify the cause of the problem. 3 If the problem persists, contact Nortel support.

System Manager event codes (41500 to 41599)	
Event code	41530
Severity	Critical
Description	The system was rebooted and the System Manager was not installed as one of the services.
Recovery path	Verify that the Symposium Server is properly installed.
Event code	41531
Severity	Minor
Description	The System Manager cannot be queried.
Recovery path	Note any error messages and contact Nortel support.
Event code	41532
Severity	Information
Description	The System Manager has been stopped.
Recovery path	None
Event code	41533
Severity	Minor
Description	The System Manager cannot access the Windows NT registry.
Recovery path	Note any error messages and contact Nortel support.
Event code	41550
Severity	Critical
Description	The System Manager cannot start the specified service.

System Manager event codes (41500 to 41599)	
Recovery path	Check the return code and take one of the following actions: • If the return code indicates that the service requires other services running, start the specified services. • If the return code indicates the service does not exist, install the service. • If the return code indicates that a path is not found, locate the executable file. • If the return code indicates the service is already running, no action is required. • If the problem persists, contact Nortel support.
Event code	41551
Severity	Minor
Description	The System Manager cannot delete the specified service from its internal tables.
Recovery path	Check the return code. If it indicates that the service is not found, no action is required. If the return code indicates an invalid address, or if the problem persists, contact Nortel support.
Event code	41552
Severity	Critical
Description	The System Manager cannot query the specified service to determine its status.
Recovery path	Check the return code. If it indicates that the service does not exist, install the service.
Event code	41553
Severity	Minor
Description	The System Manager cannot get an argument from the registry for the specified service.

System Manager event codes (41500 to 41599)	
Recovery path	If no other events accompany this message, no action is required. If the error indicates a generic problem with the registry, fix the problem as directed.
Event code	41554
Severity	Minor
Description	The System Manager cannot put an argument into the registry for the specified service.
Recovery path	If no other events accompany this message, no action is required. If the error indicates a generic problem with the registry, fix the problem as directed.
Event code	41555
Severity	Major
Description	The System Manager cannot open the process associated with the specified service.
Recovery path	If no other events accompany this message, no action is required. If the problem persists, contact Nortel support.
Event code	41556
Severity	Major
Description	There is not enough memory available.
Recovery path	Close any unnecessary applications. If the problem persists, contact Nortel support.
Event code	41557
Severity	Minor
Description	The System Manager received an unknown command.
Recovery path	If the problem persists, contact Nortel support.
Event code	41558

System Manager event codes (41500 to 41599)	
Severity	Major
Description	The System Manager cannot read the mailslot to get incoming messages.
Recovery path	Note any error codes and contact Nortel support.
Event code	41559
Severity	Critical
Description	The number of services has exceeded the System Manager's capacity.
Recovery path	Note any error codes and contact Nortel support.
Event code	41560
Severity	Critical
Description	The specified service has died too many times. It will not be restarted.
Recovery path	Follow these steps: 1 Check the event logs associated with the service at the time of this event. 2 Resolve any problems indicated by the event logs. 3 Start the service again. 4 If the problem persists, contact Nortel support.
Event code	41561
Severity	Major
Description	The System Manager cannot add the specified service to its tables.
Recovery path	Note any error codes and contact Nortel support.
Event code	41562
Severity	Major
Description	The System Manager is exiting because of a serious problem.

System Manager event codes (41500 to 41599)	
Recovery path	Check the return code and any event logs for further details. If the problem persists, contact Nortel support.
Event code	41599
Severity	Minor
Description	The System Manager APIs received an unexpected return code from a lower-level call.
Recovery path	Note any error codes and contact Nortel support.

Time Server event codes (41600 to 41605)

Introduction

The following section lists the Time Server event codes (41600 to 41605) generated by Symposium server features.

Time Server event codes (41600 to 41605)	
Event code	41600
Severity	Major
Description	A Windows function failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	41601
Severity	Major
Description	The time server was unable to successfully complete an API call to the telephony server manager
Recovery path	Note any error codes and contact Nortel support.
Event code	41602
Severity	Major
Description	The time server cannot initialize at service start-up. The process will exit and be restarted by the system manager.
Recovery path	Note any error codes and contact Nortel support.
Event code	41603
Severity	Major
Description	The System Manager API failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	41604
Severity	Major

Time Server event codes (41600 to 41605)	
Description	An unexpected condition occurred in the time server.
Recovery path	Note any error codes and contact Nortel support.
Event code	41605
Severity	Major
Description	M1 time differs from host time more frequently than allowed.
Recovery path	Check for correct M1 operation.

Event Scheduler event codes (41701 to 41779)

Introduction

The following section lists the Event Scheduler event codes (41701 to 41779) generated by Symposium server features.

Event Scheduler event codes (41701 to 41779)	
Event code	41701
Severity	Minor
Description	The Event Scheduler cannot add the event to the database.
Recovery path	Check the return code and take one of the following actions: • If the return code indicates a Remote Procedure Call error, ensure that the Event Scheduler service is running and that the Symposium Server is reachable through the network. • If the return code indicates an ODBC error, verify that the database is running and that the appropriate ODBC drivers are set properly. • If the problem persists, contact Nortel support.
Event code	41702
Severity	Minor
Description	Either the Event Scheduler could not delete the event from the database NBSystemScheduleJob table, or a system-related event was successfully deleted.
Recovery path	Check the return code and take one of the following actions: • If the return code indicates that the event was system related, the event was successfully deleted and no action is required. • If the return code indicates a Remote Procedure Call error, ensure that the Event Scheduler service is running and that the Symposium Server is reachable through the network. • If the return code indicates an ODBC error, verify that the database is running and that the appropriate ODBC drivers are set properly. • If the problem persists, contact Nortel support.

Event Scheduler event codes (41701 to 41779)	
Event code	41703
Severity	Minor
Description	The Event Scheduler cannot list the events from the database NBSystemScheduleJob table.
Recovery path	Check the return code and take one of the following actions: • If the return code indicates that the event was system related, the event was successfully deleted and no action is required. • If the return code indicates a Remote Procedure Call error, ensure that the Event Scheduler service is running and that the Symposium Server is reachable through the network. • If the return code indicates an ODBC error, verify that the database is running and that the appropriate ODBC drivers are set properly. • If the problem persists, contact Nortel support.
Event code	41704
Severity	Minor
Description	The Event Scheduler cannot return the information pertaining to this event from the database NBSystemScheduleJob table.
Recovery path	Check the return code and take one of the following actions: • If the return code indicates a Remote Procedure Call error, ensure that the Event Scheduler service is running and that the Symposium Server is reachable through the network. • If the return code indicates an ODBC error, verify that the database is running and that the appropriate ODBC drivers are set properly. • If the problem persists, contact Nortel support.
Event code	41705
Severity	Minor
Description	The Event Scheduler cannot modify the event in the database NBSystemScheduleJob table.

Event Scheduler event codes (41701 to 41779)	
Recovery path	Check the return code and take one of the following actions: • If the return code indicates an invalid modification number, the event has been modified since the last time you collected information about it. Refresh the information you have about that event and try again. • If the return code indicates a Remote Procedure Call error, ensure that the Event Scheduler service is running and that the Symposium Server is reachable through the network. • If the return code indicates an ODBC error, verify that the database is running and that the appropriate ODBC drivers are set properly. • If the problem persists, contact Nortel support.
Event code	41706
Severity	Minor
Description	The Event Scheduler cannot establish Remote Procedure Call connection.
Recovery path	Check the return code. Ensure that the Event Scheduler service is running, and that the Symposium Server is reachable through the network.
Event code	41707
Severity	Minor
Description	The Event Scheduler cannot be shut down.
Recovery path	Check the return code. Ensure that the Event Scheduler service is running, and that the Symposium Server is reachable through the network.
Event code	41730
Severity	Major
Description	The Event Scheduler service cannot be properly started.

Event Scheduler event codes (41701 to 41779)	
Recovery path	Restart the Event Scheduler. If the problem persists, contact Nortel support.
Event code	41731
Severity	Major
Description	The Event Scheduler scanner was unable to scan the database to verify whether events need to be launched.
Recovery path	Follow these steps: 1 Check the return code to find the cause of the error. 2 Reboot the client machine. 3 If the problem persists, contact Nortel support.
Event code	41742
Severity	Debug
Description	This is a debug error code for internal use.
Recovery path	None
Event code	41743
Severity	Debug
Description	This is a debug error code for internal use.
Recovery path	None
Event code	41753
Severity	Debug
Description	This is a debug error code for internal use.
Recovery path	None
Event code	41779
Severity	Minor

Event Scheduler event codes (41701 to 41779)	
Description	Event Scheduler scanner could not launch the event at execution time.
Recovery path	Check the return code to find the cause of the error. If the problem persists, contact Nortel support.
Event code	41799
Severity	Debug
Description	This is a debug error for internal use.
Recovery path	None

Backup event codes (41800 to 41899)

Introduction

The following section lists the Backup event codes (41800 to 41899) generated by Symposium server features.

Backup event codes (41800 to 41899)	
Event code	41800
Severity	Major
Description	Error encountered trying to launch either NTBACKUPEXE or ISQLEXE.
Recovery path	Follow these steps: 1 Ensure that Sybase executables, WINNT35 and System32, are included in the path statement. 2 Ensure that there is enough memory available on the system. 3 If the problem persists, contact Nortel support.
Event code	41801
Severity	Major
Description	Unable to create D:\Nortel\Backup, or a subdirectory of same, while copying to temporary directory.
Recovery path	Check the permissions for creating directories. Check the disk resources.
Event code	41802
Severity	Major
Description	The file D:\Nortel\SysOps\Backup\PBkpListDAT does not exist or cannot be opened.
Recovery path	Ensure that the partial backup list has not been deleted or renamed. To recreate the partial backup list, reinstall the application software.
Event code	41803

Backup event codes (41800 to 41899)	
Severity	Major
Description	A backup log file cannot be renamed.
Recovery path	Check the read/write permissions for the log files.
Event code	41804
Severity	Major
Description	A file or directory listed in the partial backup list cannot be found.
Recovery path	Check that files and directories listed in D:\Nortel\SysOps\Backup\PBkpListDAT have not been deleted, moved, or renamed.
Event code	41805
Severity	Major
Description	The file already exists and has Read Only permissions. This can happen both during preparation for a partial files backup, and as part of a restore from a partial files backup.
Recovery path	Change the read/write permission of the existing version of file.
Event code	41806
Severity	Major
Description	There is insufficient disk space available to copy a file to a temporary directory, or during a restore from a backup.
Recovery path	Contact Nortel to obtain more disk space.
Event code	41807
Severity	Major
Description	Internal error: A function was passed on an illegal parameter.
Recovery path	Log out, log back in, and retry the action. If the problem persists, contact Nortel support.

Backup event codes (41800 to 41899)	
Event code	41808
Severity	Major
Description	The thread to monitor the tape drive cannot be created.
Recovery path	Check the system memory resources.
Event code	41809
Severity	Major
Description	Tried to start a new backup while the tape drive was busy
Recovery path	Check scheduling of all processes that use the tape drive. Make sure each backup has time to finish before the next is due to begin.
Event code	41810
Severity	Major
Description	Unable to write file to C:\SysOps\backupsq1
Recovery path	Check the permissions for creating files. Check the disk resources.
Event code	41811
Severity	Major
Description	Error trying to read the size of files on the disk
Recovery path	Make sure the drive is not corrupt. Check that there are no unreadable directories.
Event code	41812
Severity	Major
Description	The command line to invoke NTBACKUPEXE became too long.
Recovery path	Note any error codes and contact Nortel support.
Event code	41813
Severity	Major

Backup event codes (41800 to 41899)	
Description	Unable to find a tape in the tape drive
Recovery path	Follow these steps: 1 Ensure that the tape is valid media, or try a new tape. 2 Reinsert the tape into the tape drive. 3 Close the tape drive door carefully. 4 If the problem persists, restart the Backup Service. 5 Reboot the Symposium system if necessary.
Event code	41814
Severity	Major
Description	Unable to use the tape currently in the tape drive for backup
Recovery path	Follow these steps: 1 Ensure that the tape is valid media, or try a new tape. 2 Reinsert the tape into the tape drive. 3 Close the tape drive door carefully. 4 If the problem persists, restart the Backup Service. 5 Reboot the Symposium system if necessary.
Event code	41815
Severity	Major
Description	The process to start NTBACKUPEXE was successful, but the program did not subsequently start in under 30 seconds.
Recovery path	Ensure that NTBACKUPEXE is not corrupt. Reinstall Microsoft Windows NT 351 Service Pack #2 for new version of NTBACKUPEXE.
Event code	41817
Severity	Major
Description	The tape drive is turned off.

Backup event codes (41800 to 41899)	
Recovery path	Turn on the tape drive. Make sure tape is inserted properly.
Event code	41818
Severity	Major
Description	Unable to create log directory. Backup was unable to create the specified directory that is needed to write backup log files.
Recovery path	Check the read/write permissions for the Nortel directory.
Event code	41819
Severity	Major
Description	The tape drive is not available now, and was not available when the Backup Service started.
Recovery path	Follow these steps: 1 Check the power and cables to the tape device. 2 Run Windows NT Setup. 3 Under Add / Remove Tape Devices, check to ensure that the tape device is installed. 4 Ensure that the tape driver is properly installed. 5 Restart Backup Service. 6 Reboot the computer.
Event code	41821
Severity	Information
Description	Setup is trying to add files or directories to the backup list that are already in the list.
Recovery path	None
Event code	41822
Severity	Information

Backup event codes (41800 to 41899)	
Description	Setup is trying to remove files or directories from the partial backup list that are not in the list.
Recovery path	None
Event code	41823
Severity	Major
Description	The file or directory to be added to the partial backup list was not found on the system.
Recovery path	Ensure that no files or directories have been deleted or renamed after they were installed. If the problem persists, contact Nortel support.
Event code	41830
Severity	Major
Description	There was a Remote Procedure Call error as the client tried to get a bind connection to the Server.
Recovery path	Restart the Backup Service. Ensure that the network is running properly.
Event code	41831
Severity	Information
Description	A Remote Procedure Call error occurred when the client tried to rebind to the Server.
Recovery path	None
Event code	41833
Severity	Information
Description	A Remote Procedure Call error occurred when the client tried to unbind from the Server.
Recovery path	None
Event code	41834

Backup event codes (41800 to 41899)	
Severity	Information
Description	Unable to shut down the Remote Procedure Call component of Server.
Recovery path	None
Event code	41835
Severity	Information
Description	Error received from Remote Procedure Call framework during SetEnv.
Recovery path	None
Event code	41836
Severity	Major
Description	The client or scheduled backup is unable to connect to Backup Service.
Recovery path	Restart the Backup Service.
Event code	41837
Severity	Information
Description	A Remote Procedure Call error occurred while waiting for RPC calls.
Recovery path	None
Event code	41870
Severity	Information
Description	Backup Service began the process to shut down with cleanup.
Recovery path	None
Event code	41871
Severity	Information
Description	Backup Service began the process to shut down without cleanup.

Backup event codes (41800 to 41899)	
Recovery path	None
Event code	41873
Severity	Information
Description	Backup Service received a broadcast command from the Symposium Service Manager.
Recovery path	None
Event code	41874
Severity	Minor
Description	The Symposium Backup Service encountered an error while trying to communicate with the Symposium Security Service.
Recovery path	Ensure that the Symposium Security Service is running.
Event code	41878
Severity	Major
Description	Backup was unable to detect the size of the database to be backed up.
Recovery path	Verify that the database service is running.
Event code	41879
Severity	Major
Description	Backup is unable to back up the database because it is larger than the tape capacity.
Recovery path	Verify that the tape in the tape drive is the correct type.
Event code	41880
Severity	Information
Description	Indicates that the backup process has started.
Recovery path	None

Backup event codes (41800 to 41899)	
Event code	41881
Severity	Major
Description	The service is trying to start a database dump, but the wrong number of arguments are passed to the database dump executable.
Recovery path	If you are trying to start a database dump from the command line (not recommended), ensure that the syntax is correct. If the error occurred during a scheduled backup, contact Nortel support.
Event code	41882
Severity	Major
Description	The service is trying to start a database dump, but invalid arguments are passed to the database dump executable.
Recovery path	If you are trying to start a database dump from the command line (not recommended), ensure that the syntax is correct. If the error occurred during a scheduled backup, contact Nortel support.
Event code	41884
Severity	Major
Description	The service is trying to start a database dump, but no log file was passed as a parameter to the database dump executable.
Recovery path	If you are trying to start a database dump from the command line (not recommended), ensure that the syntax is correct. If the error occurred during a scheduled backup, contact Nortel support.
Event code	41885
Severity	Major

Backup event codes (41800 to 41899)	
Description	There was an error initializing the tape while preparing for a database backup.
Recovery path	Ensure that the tape drive is properly installed. Check the hardware and software, including Windows NT setup and drivers.
Event code	41886
Severity	Major
Description	Backup is unable to find or read the database dump configuration file (NIDBDUMP.CFG).
Recovery path	Verify that the file NIDBDUMP.CFG exists on the system, and that the file is readable.
Event code	41887
Severity	Major
Description	Unable to log in to the SQL Server while starting a database backup.
Recovery path	Verify that the SQL Server service is running, and that the correct password and users are set.
Event code	41888
Severity	Major
Description	Unable to detect a tape device.
Recovery path	Follow these steps: 1 Ensure that the tape drive is properly installed. 2 Check the software, including Windows NT setup and drivers. 3 Check the tape drive hardware. 4 Ensure that the tape drive is turned on.
Event code	41889
Severity	Major

Backup event codes (41800 to 41899)	
Description	No database names were specified on the command line to NIBDUMP.EXE.
Recovery path	If you are trying to start a database dump from the command line (not recommended), ensure that the syntax is correct. If the error occurred during a scheduled backup, contact Nortel support.
Event code	41890
Severity	Information
Description	The database dump was successfully completed.
Recovery path	None
Event code	41891
Severity	Information
Description	Database dump was not completed successfully.
Recovery path	Check the event log for error messages.
Event code	41892
Severity	Major
Description	The connection to Sybase was lost during a database dump.
Recovery path	Ensure that the Sybase Server was not stopped. Check other connectivity options, such as SybPing and SQLEdit.
Event code	41893
Severity	Information
Description	Before the database dump can begin, the Historical Data Manager must grant permission. This message indicates whether permission has been granted or denied.
Recovery path	None

Backup event codes (41800 to 41899)	
Event code	41894
Severity	Major
Description	Unable to allocate memory during initialization of a database dump.
Recovery path	Ensure that there is sufficient memory available in the system.
Event code	418995
Severity	Major
Description	No acknowledgment of the request for permission to begin the database dump was received from the Historical Data Manager.
Recovery path	Check that the Historical Data Manager and SQL Server are running.
Event code	41896
Severity	Major
Description	A general error message for any unknown problem was encountered with Sybase during a database dump.
Recovery path	Check the sanity of the database Server, and the network connectivity.
Event code	41897
Severity	Major
Description	Database backup was unable to read the registry keys required to begin a backup.
Recovery path	Ensure that the registry is not damaged. Ensure that the read permissions for the registry are set.
Event code	41898
Severity	Information
Description	Historical Data Manager granted permission to begin a database dump. The dump will begin momentarily.
Recovery path	None

Backup event codes (41800 to 41899)	
Event code	41899
Severity	Major
Description	There is more than one instance of a database backup program.
Recovery path	Ensure that only one database backup is scheduled to run at a time.

Name Server event codes (42150 to 42153)

Introduction

The following section lists the Name Server event codes (42150 to 42153) generated by Symposium server features.

Name Server event codes (42150 to 42153)	
Event code	42150
Severity	Minor
Description	A general socket failure event was reported due to a failure on Winsock system calls.
Recovery path	If there are no other events, no action is required. The system will recover by itself. If the problem persists, contact Nortel support.
Event code	42151
Severity	Minor
Description	A general communication failure event was reported by the Symposium Call Center communication system.
Recovery path	If there are no other events, no action is required. The system will recover by itself. If the problem persists, contact Nortel support.
Event code	42152
Severity	Minor
Description	A general system failure event was reported due to a failure on Windows NT system calls.
Recovery path	If there are no other events, no action is required. The system will recover by itself. If the problem persists, contact Nortel support.
Event code	42153
Severity	Minor
Description	A general name service failure event was reported during address information propagation.

Name Server event codes (42150 to 42153)	
Recovery path	If there are no other events, no action is required. The system will recover by itself. If the problem persists, contact Nortel support.

Appendix B

Nortel Symposium Call Center Server feature event codes

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Overview

Introduction

This appendix contains a list of the event codes generated by Nortel Symposium Call Center Server features. The following information is provided for each event code:

Event code	The number by which the event is identified.
Severity	The severity of the event.
Description	A brief description of the event.
Recovery path	The action required to solve the problem.

Severity

There are five severity levels: critical, major, minor, information, and debug.

Critical

Critical events are those that may cause a system failure. These events require immediate attention.

Major

Major event codes are errors that may have a serious impact on the system. These events require immediate attention.

Minor

Minor event codes are generally low-impact errors or warnings. The system should continue to function; however, these events should not be ignored.

Information

Most information events are status messages that require no action. However, some may indicate a system problem.

Debug

Debug events are for internal Nortel use only. Record any event codes in the event log that accompany a debug event, and report them to your Nortel support representative.

Telephony Service Manager event codes (41200 to 42598)

Introduction

The following section lists the Telephony Service Manager event codes (41200 to 42598) generated by Symposium server features.

Telephony Service Manager event codes (41200 to 42598)	
Event code	41200
Severity	Critical
Description	Unable to connect
Recovery path	Note any error codes and contact Nortel support.
Event code	41201
Severity	Critical
Description	Maximum connections reached
Recovery path	Note any error codes and contact Nortel support.
Event code	41202
Severity	Major
Description	Cannot find data
Recovery path	Note any error codes and contact Nortel support.
Event code	41203
Severity	Minor
Description	Unable to close connection
Recovery path	Contact Nortel support
Event code	41204
Severity	Major
Description	Failed to set socket mode

Telephony Service Manager event codes (41200 to 42598)	
Recovery path	Note any error codes and contact Nortel support.
Event code	41205
Severity	Major
Description	Cannot get host information
Recovery path	Note any error codes and contact Nortel support.
Event code	41206
Severity	Major
Description	Unsuccessful attempt
Recovery path	Note any error codes and contact Nortel support.
Event code	41207
Severity	Major
Description	Unable to open handle
Recovery path	Note any error codes and contact Nortel support.
Event code	41208
Severity	Major
Description	Unable to duplicate handle
Recovery path	Note any error codes and contact Nortel support.
Event code	41209
Severity	Major
Description	Cannot add a connection
Recovery path	Note any error codes and contact Nortel support.
Event code	41210
Severity	Major

Telephony Service Manager event codes (41200 to 42598)	
Description	Unknown initialization type
Recovery path	Note any error codes and contact Nortel support.
Event code	41211
Severity	Major
Description	Function failed
Recovery path	Note any error codes and contact Nortel support.
Event code	41212
Severity	Major
Description	Initialization failed
Recovery path	Note any error codes and contact Nortel support.
Event code	41213
Severity	Major
Description	Invalid ID
Recovery path	Note any error codes and contact Nortel support.
Event code	41214
Severity	Major
Description	Unable to recover from send error
Recovery path	Note any error codes and contact Nortel support.
Event code	41215
Severity	Major
Description	Unable to reestablish connection
Recovery path	Note any error codes and contact Nortel support.
Event code	41216

Telephony Service Manager event codes (41200 to 42598)	
Severity	Major
Description	Device not supported for request
Recovery path	Note any error codes and contact Nortel support.
Event code	41217
Severity	Major
Description	Unknown request
Recovery path	Note any error codes and contact Nortel support.
Event code	41218
Severity	Major
Description	Unable to process request
Recovery path	Note any error codes and contact Nortel support.
Event code	41219
Severity	Major
Description	Unable to send request
Recovery path	Note any error codes and contact Nortel support.
Event code	41220
Severity	Major
Description	Unable to create request
Recovery path	Note any error codes and contact Nortel support.
Event code	41221
Severity	Major
Description	Error duplicating the file pointer
Recovery path	Note any error codes and contact Nortel support.

Telephony Service Manager event codes (41200 to 42598)	
Event code	41222
Severity	Major
Description	Invalid Unsolicited Status Message (USM) status received
Recovery path	Note any error codes and contact Nortel support.
Event code	41223
Severity	Major
Description	Invalid AUX status
Recovery path	Note any error codes and contact Nortel support.
Event code	41224
Severity	Major
Description	Error obtaining handle
Recovery path	Note any error codes and contact Nortel support.
Event code	41225
Severity	Major
Description	Previous thread died before releasing the MUTEX
Recovery path	Note any error codes and contact Nortel support.
Event code	41226
Severity	Major
Description	Cannot close file.
Recovery path	Contact Nortel support
Event code	41227
Severity	Major
Description	Pipe error

Telephony Service Manager event codes (41200 to 42598)	
Recovery path	Note any error codes and contact Nortel support.
Event code	41228
Severity	Major
Description	Unknown request type
Recovery path	Note any error codes and contact Nortel support.
Event code	41229
Severity	Major
Description	Cannot read response
Recovery path	Note any error codes and contact Nortel support.
Event code	41230
Severity	Major
Description	Registration failed
Recovery path	Note any error codes and contact Nortel support.
Event code	41231
Severity	Major
Description	Error in security descriptor
Recovery path	Note any error codes and contact Nortel support.
Event code	41232
Severity	Major
Description	Error in file mapping
Recovery path	Note any error codes and contact Nortel support.
Event code	41233
Severity	Major

Telephony Service Manager event codes (41200 to 42598)	
Description	Unable to load
Recovery path	Note any error codes and contact Nortel support.
Event code	41234
Severity	Major
Description	M1 access error
Recovery path	Note any error codes and contact Nortel support.
Event code	41235
Severity	Major
Description	Cannot initialize array
Recovery path	Note any error codes and contact Nortel support.
Event code	41236
Severity	Major
Description	Not previously acquired
Recovery path	Note any error codes and contact Nortel support.
Event code	41237
Severity	Major
Description	Response pending
Recovery path	Note any error codes and contact Nortel support.
Event code	41238
Severity	Major
Description	The number of voice segments exceeds the limit.
Recovery path	Note any error codes and contact Nortel support.
Event code	41239

Telephony Service Manager event codes (41200 to 42598)	
Severity	Major
Description	Failed to create MUTEX
Recovery path	Note any error codes and contact Nortel support.
Event code	41240
Severity	Major
Description	Error releasing MUTEX
Recovery path	Note any error codes and contact Nortel support.
Event code	41241
Severity	Major
Description	Invalid device
Recovery path	Note any error codes and contact Nortel support.
Event code	41242
Severity	Major
Description	Acquired already
Recovery path	Note any error codes and contact Nortel support.
Event code	41243
Severity	Major
Description	Maximum channels acquired
Recovery path	Note any error codes and contact Nortel support.
Event code	41244
Severity	Major
Description	The Message ID does not exist.
Recovery path	Note any error codes and contact Nortel support.

Telephony Service Manager event codes (41200 to 42598)	
Event code	41245
Severity	Major
Description	Voice channel does not exist
Recovery path	Note any error codes and contact Nortel support.
Event code	41246
Severity	Major
Description	Unknown response code
Recovery path	Note any error codes and contact Nortel support.
Event code	41247
Severity	Major
Description	Unknown response type
Recovery path	Note any error codes and contact Nortel support.
Event code	41248
Severity	Major
Description	Voice channel failed
Recovery path	Note any error codes and contact Nortel support.
Event code	41249
Severity	Major
Description	Session end on voice channel
Recovery path	Note any error codes and contact Nortel support.
Event code	41250
Severity	Major
Description	Error event from channel

Telephony Service Manager event codes (41200 to 42598)	
Recovery path	Note any error codes and contact Nortel support.
Event code	41251
Severity	Major
Description	Unknown event type
Recovery path	Note any error codes and contact Nortel support.
Event code	41252
Severity	Major
Description	Response timeout on request
Recovery path	Note any error codes and contact Nortel support.
Event code	41253
Severity	Major
Description	Application Protocol Interface (API) connection failed
Recovery path	Note any error codes and contact Nortel support.
Event code	41254
Severity	Major
Description	Failed to store object
Recovery path	Note any error codes and contact Nortel support.
Event code	41255
Severity	Major
Description	Failed to create index
Recovery path	Note any error codes and contact Nortel support.
Event code	41256
Severity	Major

Telephony Service Manager event codes (41200 to 42598)	
Description	Invalid handle
Recovery path	Note any error codes and contact Nortel support.
Event code	41257
Severity	Major
Description	Cannot allocate for buffers
Recovery path	Contact Nortel support.
Event code	41258
Severity	Major
Description	Interprocess communication error
Recovery path	Note any error codes and contact Nortel support.
Event code	41259
Severity	Major
Description	Unable to execute
Recovery path	Note any error codes and contact Nortel support.
Event code	41260
Severity	Major
Description	Failed to allocate object holder
Recovery path	Note any error codes and contact Nortel support.
Event code	41261
Severity	Major
Description	Failed to insert object holder
Recovery path	Note any error codes and contact Nortel support.
Event code	41262

Telephony Service Manager event codes (41200 to 42598)	
Severity	Major
Description	The table and queue are not synchronized.
Recovery path	Note any error codes and contact Nortel support.
Event code	41263
Severity	Major
Description	Cannot add ID
Recovery path	Note any error codes and contact Nortel support.
Event code	41264
Severity	Major
Description	Unable to find parameters
Recovery path	Note any error codes and contact Nortel support.
Event code	41265
Severity	Major
Description	Cannot delete item
Recovery path	Note any error codes and contact Nortel support.
Event code	41266
Severity	Major
Description	Unable to create thread
Recovery path	Note any error codes and contact Nortel support.
Event code	41267
Severity	Major
Description	Unexpected event
Recovery path	Note any error codes and contact Nortel support.

Telephony Service Manager event codes (41200 to 42598)	
Event code	41268
Severity	Major
Description	Link error
Recovery path	Note any error codes and contact Nortel support.
Event code	41269
Severity	Major
Description	Failed to send event
Recovery path	Note any error codes and contact Nortel support.
Event code	41270
Severity	Major
Description	Failed to create object
Recovery path	Note any error codes and contact Nortel support.
Event code	41271
Severity	Major
Description	Failed to connect to DLL
Recovery path	Note any error codes and contact Nortel support.
Event code	41272
Severity	Major
Description	Failed to initialize class
Recovery path	Note any error codes and contact Nortel support.
Event code	41273
Severity	Major
Description	Failed to insert element in table

Telephony Service Manager event codes (41200 to 42598)	
Recovery path	Note any error codes and contact Nortel support.
Event code	41274
Severity	Major
Description	Cannot get name
Recovery path	Note any error codes and contact Nortel support.
Event code	41275
Severity	Major
Description	Failed to create file
Recovery path	Note any error codes and contact Nortel support.
Event code	41276
Severity	Major
Description	Cannot map view
Recovery path	Note any error codes and contact Nortel support.
Event code	41277
Severity	Major
Description	Cannot create file mapping
Recovery path	Note any error codes and contact Nortel support.
Event code	41278
Severity	Major
Description	Cannot open file mapping
Recovery path	Note any error codes and contact Nortel support.
Event code	41279
Severity	Major

Telephony Service Manager event codes (41200 to 42598)	
Description	Cannot unmap view
Recovery path	Note any error codes and contact Nortel support.
Event code	41280
Severity	Major
Description	Failed to get process ID
Recovery path	Note any error codes and contact Nortel support.
Event code	41281
Severity	Major
Description	Unknown Telephony Service Manager (TSM) service type
Recovery path	Note any error codes and contact Nortel support.
Event code	41282
Severity	Major
Description	Unknown function
Recovery path	Note any error codes and contact Nortel support.
Event code	41283
Severity	Major
Description	Invalid object
Recovery path	Note any error codes and contact Nortel support.
Event code	41284
Severity	Major
Description	Failed to create event
Recovery path	Note any error codes and contact Nortel support.
Event code	41285

Telephony Service Manager event codes (41200 to 42598)	
Severity	Major
Description	Cannot find event queue
Recovery path	Note any error codes and contact Nortel support.
Event code	41286
Severity	Major
Description	Failed to add queue
Recovery path	Note any error codes and contact Nortel support.
Event code	41287
Severity	Major
Description	Maximum sessions reached
Recovery path	Note any error codes and contact Nortel support.
Event code	41288
Severity	Major
Description	Invalid number of sessions
Recovery path	Note any error codes and contact Nortel support.
Event code	41289
Severity	Major
Description	Unknown event
Recovery path	Note any error codes and contact Nortel support.
Event code	41290
Severity	Major
Description	Object already exists
Recovery path	Note any error codes and contact Nortel support.

Telephony Service Manager event codes (41200 to 42598)	
Event code	41291
Severity	Major
Description	Integrity check failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	41293
Severity	Major
Description	Could not find data for handle
Recovery path	Note any error codes and contact Nortel support.
Event code	41294
Severity	Major
Description	Unable to find information
Recovery path	Note any error codes and contact Nortel support.
Event code	41295
Severity	Major
Description	Cannot find object
Recovery path	Note any error codes and contact Nortel support.
Event code	41296
Severity	Information
Description	Initialization completed
Recovery path	None
Event code	41298
Severity	Major
Description	tsm_exe status

Telephony Service Manager event codes (41200 to 42598)	
Recovery path	Note any error codes and contact Nortel support.
Event code	42500
Severity	Major
Description	Unable to create socket
Recovery path	Note any error codes and contact Nortel support.
Event code	42501
Severity	Major
Description	Internal error
Recovery path	Note any error codes and contact Nortel support.
Event code	42502
Severity	Major
Description	Wait for object failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42503
Severity	Information
Description	Component starting up
Recovery path	None
Event code	42504
Severity	Information
Description	Component shutting down
Recovery path	None
Event code	42505
Severity	Major

Telephony Service Manager event codes (41200 to 42598)	
Description	Invalid data
Recovery path	Note any error codes and contact Nortel support.
Event code	42506
Severity	Major
Description	File error
Recovery path	Note any error codes and contact Nortel support.
Event code	42507
Severity	Critical
Description	Memory allocation error
Recovery path	Note any error codes and contact Nortel support.
Event code	42508
Severity	Major
Description	Application Protocol Interface (API) initialization failure
Recovery path	Note any error codes and contact Nortel support.
Event code	42570
Severity	Major
Description	Unable to find request object.
Recovery path	Note any error codes and contact Nortel support.
Event code	42571
Severity	Major
Description	Unable to create event reference.
Recovery path	Note any error codes and contact Nortel support.
Event code	42572

Telephony Service Manager event codes (41200 to 42598)	
Severity	Major
Description	Integrity check failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	42573
Severity	Major
Description	Unable to start timer.
Recovery path	Note any error codes and contact Nortel support.
Event code	42574
Severity	Minor
Description	Deregistration failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42575
Severity	Information
Description	Connection established
Recovery path	None
Event code	42576
Severity	Information
Description	Connection reestablished
Recovery path	None
Event code	42577
Severity	Information
Description	Disconnected
Recovery path	None

Telephony Service Manager event codes (41200 to 42598)	
Event code	42578
Severity	Information
Description	Thread has started
Recovery path	None
Event code	42579
Severity	Information
Description	Thread has stopped
Recovery path	None
Event code	42580
Severity	Minor
Description	Multiple copies are not allowed.
Recovery path	Note any error codes and contact Nortel support.
Event code	42581
Severity	Minor
Description	Unexpected result
Recovery path	Note any error codes and contact Nortel support.
Event code	42582
Severity	Information
Description	Telephony Service Manager (TSM) component state change
Recovery path	None
Event code	42583
Severity	Minor
Description	Failed to set or reset sync event

Telephony Service Manager event codes (41200 to 42598)	
Recovery path	Note any error codes and contact Nortel support.
Event code	42584
Severity	Minor
Description	Failed to set pipe mode
Recovery path	Note any error codes and contact Nortel support.
Event code	42585
Severity	Information
Description	Wait abandoned for MUTEX
Recovery path	None
Event code	42586
Severity	Major
Description	SPM ID Verification failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42587
Severity	Major
Description	Lock failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42588
Severity	Major
Description	Unlock failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42589
Severity	Information

Telephony Service Manager event codes (41200 to 42598)	
Description	Successfully recovered from error
Recovery path	None
Event code	42591
Severity	Information
Description	Cleanup complete
Recovery path	None
Event code	42591
Severity	Major
Description	Attaching process failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42592
Severity	Major
Description	Detaching process failed
Recovery path	Note any error codes and contact Nortel support.
Event code	42593
Severity	Major
Description	Unable to restart
Recovery path	Note any error codes and contact Nortel support.
Event code	42594
Severity	Major
Description	Unable to start
Recovery path	Note any error codes and contact Nortel support.
Event code	42595

Telephony Service Manager event codes (41200 to 42598)	
Severity	Major
Description	Unable to obtain address
Recovery path	Note any error codes and contact Nortel support.
Event code	42596
Severity	Major
Description	Generic error tag
Recovery path	None
Event code	42597
Severity	Minor
Description	Generic warning tag
Recovery path	Note any error codes and contact Nortel support.
Event code	42598
Severity	Information
Description	Generic information tag
Recovery path	Note any error codes and contact Nortel support.

Toolkit event codes (45300 to 45301)

Introduction

The following section lists the Toolkit event codes (45300 to 45301) generated by Symposium server features.

Toolkit event codes (45300 to 45301)	
Event code	45300
Severity	Critical
Description	A service application could not be started properly.
Recovery path	Ensure that service control manager can be started properly. Ensure that the registry entries for the service having start-up problems are correctly entered.
Event code	45301
Severity	Critical
Description	A service application could not be started properly.
Recovery path	Record the error number and any debug messages in the Event log. Contact Nortel support.
Description	A service application could not be started properly.
Recovery path	Ensure that service control manager can be started properly. Ensure that the registry entries for the service having start-up problems are correctly entered.

Operation, Administration and Maintenance event codes (45000 to 46212)

Introduction

The following section lists the Operation, Administration and Maintenance (OAM) event codes (45000 to 46212) generated by Symposium server features.

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Event code	45000
Severity	Critical
Description	Memory allocation failure
Recovery path	Close any non-essential applications and try the task again.
Event code	45001
Severity	Critical
Description	Server initialization start failure
Recovery path	Ensure that the database can be started, and that there is enough memory.
Event code	45002
Severity	Critical
Description	Application Protocol Interface (API) initialization failure
Recovery path	Close any non-essential applications and try the task again.
Event code	45003
Severity	Critical
Description	Thread initialization failure
Recovery path	Close any non-essential applications and try the task again.
Event code	45004

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Severity	Critical
Description	Shared memory failure detected
Recovery path	Close any non-essential applications and try the task again.
Event code	45005
Severity	Major
Description	A parameter was missing when the application was launched.
Recovery path	Ensure that the software is installed with the same correct versions on the client and the server.
Event code	45006
Severity	Major
Description	Failed to register a message with the Symposium Call Center Operation, Administration, and Maintenance (OAM) server.
Recovery path	Close any non-essential applications and try the task again.
Event code	45007
Severity	Critical
Description	A file could not be opened in the file system.
Recovery path	Note any error codes and contact Nortel support.
Event code	45008
Severity	Critical
Description	An error occurred while trying to read a file.
Recovery path	Note any error codes and contact Nortel support.
Event code	45009
Severity	Critical
Description	An error occurred while trying to write to a file.

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Recovery path	Note any error codes and contact Nortel support.
Event code	45010
Severity	Critical
Description	A file could not be created in the system.
Recovery path	More disk space may be needed. Delete any non-essential files from the system.
Event code	45011
Severity	Critical
Description	An internal program error occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	45012
Severity	Critical
Description	A system service aborted. The system should recover.
Recovery path	Note any error codes and contact Nortel support.
Event code	45013
Severity	Critical
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.
Event code	45014
Severity	Critical
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Event code	45015
Severity	Major
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.
Event code	45016
Severity	Major
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.
Event code	45017
Severity	Major
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.
Event code	45018
Severity	Information
Description	The service has stopped.
Recovery path	None
Event code	45019
Severity	Information
Description	The service has started.
Recovery path	None
Event code	45020

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Severity	Minor
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.
Event code	45021
Severity	Major
Description	An internal program error occurred.
Recovery path	Note any error codes in the event log and in the Windows NT log, and contact Nortel support.
Event code	45022
Severity	Information
Description	The service is starting.
Recovery path	None
Event code	45023
Severity	Information
Description	The service is stopping.
Recovery path	None
Event code	45903
Severity	Critical
Description	Could not log in to the database
Recovery path	Ensure that the software is installed properly. If the problem persists, contact Nortel support.
Event code	45905
Severity	Critical

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	A database error occurred during a database access.
Recovery path	Database corruption may have occurred. A database restore may be necessary.
Event code	45906
Severity	Major
Description	A database error occurred during a database access.
Recovery path	Database corruption may have occurred. A database restore may be necessary.
Event code	45907
Severity	Minor
Description	A database error occurred during a database access.
Recovery path	Database corruption may have occurred. A database restore may be necessary.
Event code	45908
Severity	Critical
Description	The Call Center OAM server lost the database connection.
Recovery path	Database corruption may have occurred. A database restore may be necessary.
Event code	45909
Severity	Debug
Description	A database error occurred during a database access.
Recovery path	Database corruption may have occurred. A database restore may be necessary.
Event code	45910
Severity	Critical

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	Cannot get a database connection
Recovery path	Check the Windows NT error log and follow any Sybase error procedures.
Event code	45911
Severity	Critical
Description	Cannot register event notification with the Operation, Administration, and Maintenance (OAM) service.
Recovery path	Close any non-essential applications and restart the service.
Event code	46000
Severity	Information
Description	An Activity Code was added to the database.
Recovery path	None
Event code	46001
Severity	Information
Description	An Activity Code was modified in the database.
Recovery path	None
Event code	46002
Severity	Information
Description	An Activity Code was deleted from the database.
Recovery path	None
Event code	46005
Severity	Information
Description	An application was added to the database
Recovery path	None

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Event code	46006
Severity	Information
Description	An application was modified in the database.
Recovery path	None
Event code	46007
Severity	Information
Description	An application was deleted from the database.
Recovery path	None
Event code	46010
Severity	Information
Description	A skillset was added to the database.
Recovery path	None
Event code	46011
Severity	Information
Description	A skillset was deleted from the database.
Recovery path	None
Event code	46012
Severity	Information
Description	A skillset in the database was modified.
Recovery path	None
Event code	46020
Severity	Information
Description	A Telset field display was added to the database.

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Recovery path	None
Event code	46021
Severity	Information
Description	A Telset field in the database was modified.
Recovery path	None
Event code	46022
Severity	Information
Description	A Telset display field was deleted from the database.
Recovery path	None
Event code	46023
Severity	Information
Description	A Terminal Number (TN) switch ID was added to the database, or a TN switch ID in the database was modified.
Recovery path	None
Event code	46025
Severity	Information
Description	A Terminal Number (TN) switch ID and port address were added to the database.
Recovery path	None
Event code	46026
Severity	Information
Description	A Terminal Number (TN) switch ID and port address were deleted from the database.
Recovery path	None

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Event code	46027
Severity	Information
Description	A Terminal Number (TN) switch ID and port address in the database were modified.
Recovery path	None
Event code	46030
Severity	Information
Description	A User was added to the database.
Recovery path	None
Event code	46031
Severity	Information
Description	A User from the database has been modified.
Recovery path	None
Event code	46032
Severity	Information
Description	A user was deleted from the database.
Recovery path	None
Event code	46033
Severity	Information
Description	A User Entry List from the database was modified.
Recovery path	None
Event code	46034
Severity	Information

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	A User Entry List was deleted from the database.
Recovery path	None
Event code	46035
Severity	Information
Description	A User Item was added to the database.
Recovery path	None
Event code	46036
Severity	Information
Description	A User Item was deleted from the database.
Recovery path	None
Event code	46040
Severity	Information
Description	A User Skillset was added to the database.
Recovery path	None
Event code	46041
Severity	Information
Description	A User Skillset from the database was modified.
Recovery path	None
Event code	46042
Severity	Information
Description	A User Skillset was deleted from the database.
Recovery path	None
Event code	46045

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Severity	Information
Description	A User Skillset Assignment was added to the database.
Recovery path	None
Event code	46046
Severity	Information
Description	A User Skillset Assignment from the database was modified.
Recovery path	None
Event code	46067
Severity	Information
Description	A User Skillset Assignment was deleted from the database.
Recovery path	None
Event code	46050
Severity	Information
Description	A User Template was added to the database.
Recovery path	None
Event code	46051
Severity	Information
Description	A User Template from the database was modified.
Recovery path	None
Event code	46052
Severity	Information
Description	A User Template was deleted from the database.
Recovery path	None

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Event code	46055
Severity	Information
Description	A route was added to the database.
Recovery path	None
Event code	46056
Severity	Information
Description	A route from the database was modified.
Recovery path	None
Event code	46057
Severity	Information
Description	A route was deleted from the database.
Recovery path	None
Event code	46060
Severity	Information
Description	A Call-by-Call application was added to the database.
Recovery path	None
Event code	46061
Severity	Information
Description	A Call-by-Call application was deleted from the database.
Recovery path	None
Event code	46062
Severity	Information
Description	The Historical Data Collection configuration was modified.

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Recovery path	None
Event code	46063
Severity	Information
Description	The Historical Data Maintenance configuration was modified.
Recovery path	None
Event code	46064
Severity	Information
Description	The Real-time Data Collection configuration was modified.
Recovery path	None
Event code	46065
Severity	Information
Description	The Statistical Data Propagator configuration was modified.
Recovery path	None
Event code	46066
Severity	Information
Description	A Controlled Directory Number (CDN) was added to the database.
Recovery path	None
Event code	46067
Severity	Information
Description	A Controlled Directory Number (CDN) from the database was modified.
Recovery path	None
Event code	46068

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Severity	Information
Description	A Controlled Directory Number (CDN) was deleted from the database.
Recovery path	None
Event code	46070
Severity	Information
Description	A Dialed Number Identification System (DNIS) was added to the database.
Recovery path	None
Event code	46071
Severity	Information
Description	A Dialed Number Identification System (DNIS) from the database was modified.
Recovery path	None
Event code	46072
Severity	Information
Description	A Dialed Number Identification System (DNIS) was deleted from the database.
Recovery path	None
Event code	46075
Severity	Information
Description	A task flow was added to the database.
Recovery path	None
Event code	46076
Severity	Information

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	A task flow from the database was modified.
Recovery path	None
Event code	46077
Severity	Information
Description	A task flow was deleted from the database.
Recovery path	None
Event code	46080
Severity	Information
Description	A task flow item was added to the database.
Recovery path	None
Event code	46081
Severity	Information
Description	A task flow reference to an item was deleted from the database.
Recovery path	None
Event code	46085
Severity	Information
Description	A task flow reference to a user was added to the database.
Recovery path	None
Event code	46086
Severity	Information
Description	A task flow reference to a user was deleted from the database.
Recovery path	None
Event code	46090

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Severity	Information
Description	A voice port was added to the database.
Recovery path	None
Event code	46091
Severity	Information
Description	A voice port was modified in the database.
Recovery path	None
Event code	46092
Severity	Information
Description	A voice port was deleted from the database.
Recovery path	None
Event code	46095
Severity	Information
Description	An Interactive Voice Response (IVR) Automatic Call Distribution (ACD) Dialed Number (DN) was added to the database.
Recovery path	None
Event code	46096
Severity	Information
Description	An Interactive Voice Response (IVR) ACD DN from the database was modified.
Recovery path	None
Event code	46097
Severity	Information

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	An Interactive Voice Response (IVR) ACD DN was deleted from the database.
Recovery path	None
Event code	46100
Severity	Information
Description	A UserAssign was added to the database.
Recovery path	None
Event code	46101
Severity	Information
Description	A UserAssign from the database was modified.
Recovery path	None
Event code	46102
Severity	Information
Description	A UserAssign was deleted from the database.
Recovery path	None
Event code	46105
Severity	Information
Description	A Threshold Template was added to the database.
Recovery path	None
Event code	46106
Severity	Information
Description	A Threshold Template was deleted from the database.
Recovery path	None

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Event code	46107
Severity	Information
Description	A Threshold Template from the database was modified.
Recovery path	None
Event code	46110
Severity	Information
Description	A Task Flow variable was added to the database.
Recovery path	None
Event code	46111
Severity	Information
Description	A Task Flow variable was deleted from the database.
Recovery path	None
Event code	46112
Severity	Information
Description	A Task Flow variable from the database was modified.
Recovery path	None
Event code	46115
Severity	Information
Description	A Global Parameter was modified.
Recovery path	None
Event code	46116
Severity	Information
Description	Switch information was modified.

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Recovery path	None
Event code	46120
Severity	Information
Description	A formula was added to the database.
Recovery path	None
Event code	46121
Severity	Information
Description	A formula from the database was modified.
Recovery path	None
Event code	46122
Severity	Information
Description	A formula was deleted from the database.
Recovery path	None
Event code	46123
Severity	Information
Description	A Real-time template was modified.
Recovery path	None
Event code	46124
Severity	Information
Description	A Real-time column list was modified.
Recovery path	None
Event code	46125
Severity	Information

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	The Agent attribute was removed from the User record.
Recovery path	None
Event code	46126
Severity	Information
Description	The Supervisor attribute was removed from the User record.
Recovery path	None
Event code	46127
Severity	Information
Description	The User record has set the Terminal Number (TN) field.
Recovery path	None
Recovery path	None
Event code	46200
Severity	Major
Description	An invalid session was used in an Application Protocol Interface (API) call. An invalid identifier was passed into the service.
Recovery path	Note any error codes and contact Nortel support.
Event code	46201
Severity	Major
Description	An invalid parameter was used in an Application Protocol Interface (API) call. An invalid identifier was passed into the service.
Recovery path	Verify each entry in the scheduled task's configuration and record all event messages that are produced at the time of execution. Contact Nortel support.
Event code	46202
Severity	Minor

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	An invalid Skillset was used in an Application Protocol Interface (API) call. An invalid identifier passed into the service.
Recovery path	Follow these steps: 1 Ensure that the Skillset exists in the system. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46203
Severity	Minor
Description	An invalid User was used in an Application Protocol Interface (API) call. An invalid identifier passed into the service.
Recovery path	Follow these steps: 1 Ensure that the user exists in the system. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46204
Severity	Minor
Description	An invalid Supervisor ID was used in an Application Protocol Interface (API) call. An invalid identifier passed into the service.
Recovery path	Follow these steps: 1 Ensure that the Supervisor exists in the system. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46205
Severity	Minor

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	An invalid identifier was used in an Application Protocol Interface (API) call. An invalid identifier passed into the service.
Recovery path	Follow these steps. 1 Ensure that the object exists in the system. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46206
Severity	Major
Description	Communication failure returned by an Application Protocol Interface (API) call. An invalid identifier passed into the service.
Recovery path	Follow these steps: 1 Ensure that all system services are running. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46207
Severity	Minor
Description	An entry that already exists was passed into an Application Protocol Interface (API) call. An invalid parameter was passed into the service.
Recovery path	Follow these steps: 1 Ensure that the entries in the scheduled task's configuration are correct. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46208

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Severity	Major
Description	An Application Protocol Interface (API) call timed out. An invalid parameter was passed into the service.
Recovery path	Follow these steps: 1 Evaluate the workload on the system. 2 Run the scheduled task again. 3 If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46209
Severity	Major
Description	An Application Protocol Interface (API) call-in returned a database error. An invalid parameter was passed into the service.
Recovery path	If the problem persists, record all event messages that were produced at the time of execution and contact Nortel support.
Event code	46210
Severity	Minor
Description	An invalid changed ID was used in the Application Protocol Interface (API). An invalid parameter was passed into the service.
Recovery path	Try the command again. If the problem persists, contact Nortel support.
Event code	46211
Severity	Major
Description	Failed to update the Terminal Number (TN) limit
Recovery path	Note any error codes and contact Nortel support.
Event code	46212
Severity	Information

Operation, Administration and Maintenance (OAM) event codes (45000 to 46212)	
Description	An invalid session ID passed into the Symposium Call Center Operation, Administration, and Maintenance (OAM) server.
Recovery path	None

Statistical Data Manager event codes (46700 to 47929)

Introduction

The following section lists the Statistical Data Manager event codes (46700 to 47929) generated by Symposium server features.

Statistical Data Manager event codes (46700 to 47929)	
Event code	46700
Severity	Critical
Description	Unable to open the statistical data file
Recovery path	Note any error codes and contact Nortel support.
Event code	46701
Severity	Critical
Description	Unable to open the event log file
Recovery path	Note any error codes and contact Nortel support.
Event code	46702
Severity	Critical
Description	Unable to send a message to the Event Broker
Recovery path	Note any error codes and contact Nortel support.
Event code	46703
Severity	Critical
Description	Unable to send a message to the Statistical Data Manager (SDM) Configuration Administrator
Recovery path	Note any error codes and contact Nortel support.
Event code	46750
Severity	Major

Statistical Data Manager event codes (46700 to 47929)	
Description	Unable to create a statistical object
Recovery path	Note any error codes and contact Nortel support.
Event code	46751
Severity	Major
Description	Unable to create a pegging information object
Recovery path	Note any error codes and contact Nortel support.
Event code	46752
Severity	Major
Description	Unable to create a data collection configuration object
Recovery path	Note any error codes and contact Nortel support.
Event code	46753
Severity	Major
Description	Unable to write statistical data to a file
Recovery path	Note any error codes and contact Nortel support.
Event code	46754
Severity	Major
Description	Unable to write an event to the log file
Recovery path	Note any error codes and contact Nortel support.
Event code	46755
Severity	Major
Description	Unable to send a message to the Historical Data Collector
Recovery path	Note any error codes and contact Nortel support.
Event code	46756

Statistical Data Manager event codes (46700 to 47929)	
Severity	Major
Description	Unable to send a message to the Historical Data Maintenance
Recovery path	Note any error codes and contact Nortel support.
Event code	46757
Severity	Major
Description	Unable to send a message to the Historical Data Maintenance at the remote site
Recovery path	Note any error codes and contact Nortel support.
Event code	46758
Severity	Major
Description	Unable to create a communication proxy object
Recovery path	Note any error codes and contact Nortel support.
Event code	46800
Severity	Minor
Description	Unable to retrieve the directory name from the Windows NT registry. The default will be used.
Recovery path	Note any error codes and contact Nortel support.
Event code	46801
Severity	Minor
Description	The Time setting is not synchronized.
Recovery path	Note any error codes and contact Nortel support.
Event code	46802
Severity	Minor
Description	Unable to get a call object. An event may not be synchronized.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	Note any error codes and contact Nortel support.
Event code	46803
Severity	Minor
Description	The object already exists.
Recovery path	Note any error codes and contact Nortel support.
Event code	46804
Severity	Minor
Description	The object does not exist.
Recovery path	Note any error codes and contact Nortel support.
Event code	46805
Severity	Minor
Description	Unable to open the debug file
Recovery path	Note any error codes and contact Nortel support.
Event code	46806
Severity	Minor
Description	Unable to write debug information to the debug file
Recovery path	Note any error codes and contact Nortel support.
Event code	46850
Severity	Information
Description	The Historical Data Collector has shut down, as requested.
Recovery path	None
Event code	46851
Severity	Information

Statistical Data Manager event codes (46700 to 47929)	
Description	The Event Broker is down, and all active calls were cleaned up.
Recovery path	None
Event code	46852
Severity	Information
Description	The Event Handler Thread has closed.
Recovery path	None
Event code	46853
Severity	Information
Description	The Data Dump Timer Thread has closed.
Recovery path	None
Event code	46854
Severity	Information
Description	The data collection option was turned on.
Recovery path	None
Event code	46855
Severity	Information
Description	The data collection option was turned off.
Recovery path	None
Event code	46856
Severity	Information
Description	The Call-by-Call collection option was deleted.
Recovery path	None
Event code	46900

Statistical Data Manager event codes (46700 to 47929)	
Severity	Information
Description	Unable to retrieve a value from the Windows NT registry. The default value will be used.
Recovery path	None
Event code	46901
Severity	Major
Description	The tag ID of the “execute query” message received from the Data Propagator is invalid.
Recovery path	Note any error codes and contact Nortel support.
Event code	46902
Severity	Major
Description	The table ID in the query message received from the Data Propagator is invalid.
Recovery path	Note any error codes and contact Nortel support.
Event code	46903
Severity	Major
Description	The column ID in the query message received from the Data Propagator is invalid.
Recovery path	Note any error codes and contact Nortel support.
Event code	46904
Severity	Major
Description	More than one table ID is specified in the data propagation request. Real-time Data Collector only accepts one table per query.
Recovery path	Note any error codes and contact Nortel support.
Event code	46905

Statistical Data Manager event codes (46700 to 47929)	
Severity	Major
Description	Unsupported query key is specified in the query message received from the Data Propagator
Recovery path	Note any error codes and contact Nortel support.
Event code	46906
Severity	Information
Description	The option for collecting this statistic is turned off by the client.
Recovery path	None
Event code	46907
Severity	Critical
Description	Unable to send “Initialization Request” message to Statistical Data Manager (SDM) Configuration Administration.
Recovery path	Note any error codes and contact Nortel support.
Event code	46908
Severity	Critical
Description	Unable to send “Initialization Done” message to Statistical Data Manager (SDM) Configuration Administration.
Recovery path	Note any error codes and contact Nortel support.
Event code	46909
Severity	Critical
Description	Unable to register Call Processing message with Event Broker.
Recovery path	Note any error codes and contact Nortel support.
Event code	46910
Severity	Critical

Statistical Data Manager event codes (46700 to 47929)	
Description	Unable to send “Register Service” message to the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	46912
Severity	Critical
Description	Unable to send data to the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	46913
Severity	Minor
Description	Unable to delete application pegging threshold information for an application.
Recovery path	Note any error codes and contact Nortel support.
Event code	46914
Severity	Minor
Description	Unable to delete the Skillset pegging threshold information for a Skillset.
Recovery path	Note any error codes and contact Nortel support.
Event code	46915
Severity	Minor
Description	Unable to delete the Interactive Voice Response (IVR) queue pegging threshold information for an IVR queue.
Recovery path	Note any error codes and contact Nortel support.
Event code	46916
Severity	Minor
Description	An application statistic record is missing.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	Note any error codes and contact Nortel support.
Event code	46917
Severity	Minor
Description	A Skillset statistic record is missing.
Recovery path	Note any error codes and contact Nortel support.
Event code	46918
Severity	Minor
Description	An Interactive Voice Response (IVR) queue statistic record is missing.
Recovery path	Note any error codes and contact Nortel support.
Event code	46919
Severity	Minor
Description	A Route statistic record is missing.
Recovery path	Note any error codes and contact Nortel support.
Event code	46920
Severity	Minor
Description	An Agent statistic record is missing.
Recovery path	Note any error codes and contact Nortel support.
Event code	46921
Severity	Minor
Description	A Network statistic record is missing.
Recovery path	Note any error codes and contact Nortel support.
Event code	46922

Statistical Data Manager event codes (46700 to 47929)	
Severity	Minor
Description	Unable to reference the corresponding Application record with specified Application ID.
Recovery path	Note any error codes and contact Nortel support.
Event code	46923
Severity	Minor
Description	Unable to reference the corresponding Skillset record with specified Skillset ID.
Recovery path	Note any error codes and contact Nortel support.
Event code	46924
Severity	Minor
Description	Unable to reference the corresponding Interactive Voice Response (IVR) queue record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46925
Severity	Minor
Description	Unable to reference the corresponding Route record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46926
Severity	Minor
Description	Unable to reference the corresponding Agent record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46927
Severity	Minor

Statistical Data Manager event codes (46700 to 47929)	
Description	Unable to reference the corresponding Call Center Summary record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46928
Severity	Minor
Description	Unable to reference the corresponding Network record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46929
Severity	Minor
Description	Unable to delete an Application record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46930
Severity	Minor
Description	Unable to delete a Skillset record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46931
Severity	Minor
Description	Unable to delete an Interactive Voice Response (IVR) queue record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46932
Severity	Minor
Description	Unable to delete a Route record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46933

Statistical Data Manager event codes (46700 to 47929)	
Severity	Minor
Description	Unable to delete an Agent record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46934
Severity	Minor
Description	Unable to delete a Network record.
Recovery path	Note any error codes and contact Nortel support.
Event code	46935
Severity	Minor
Description	Duplicated Local Call object
Recovery path	Note any error codes and contact Nortel support.
Event code	46936
Severity	Minor
Description	Duplicated Network in Call object
Recovery path	Note any error codes and contact Nortel support.
Event code	46937
Severity	Minor
Description	Duplicated Local Queue object
Recovery path	Note any error codes and contact Nortel support.
Event code	46938
Severity	Minor
Description	Duplicated Network Out Queue object
Recovery path	Note any error codes and contact Nortel support.

Statistical Data Manager event codes (46700 to 47929)	
Event code	46939
Severity	Minor
Description	Duplicated Application record
Recovery path	Note any error codes and contact Nortel support.
Event code	46940
Severity	Minor
Description	Duplicated Skillset record
Recovery path	Note any error codes and contact Nortel support.
Event code	46941
Severity	Minor
Description	Duplicated Agent record
Recovery path	Note any error codes and contact Nortel support.
Event code	46942
Severity	Minor
Description	Duplicated Interactive Voice Response (IVR) Queue record
Recovery path	Note any error codes and contact Nortel support.
Event code	46943
Severity	Minor
Description	Duplicated Route record
Recovery path	Note any error codes and contact Nortel support.
Event code	46944
Severity	Minor
Description	Unable to identify the DN Call type

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	Note any error codes and contact Nortel support.
Event code	46945
Severity	Minor
Description	The Local Call object does not exist.
Recovery path	Note any error codes and contact Nortel support.
Event code	46946
Severity	Minor
Description	The Local Queue object does not exist.
Recovery path	Note any error codes and contact Nortel support.
Event code	46947
Severity	Minor
Description	The Network in Call object does not exist.
Recovery path	Note any error codes and contact Nortel support.
Event code	46948
Severity	Minor
Description	The Network Out Queue object does not exist
Recovery path	Note any error codes and contact Nortel support.
Event code	46949
Severity	Minor
Description	The Local Call and the Network in Call object does not exist.
Recovery path	Note any error codes and contact Nortel support.
Event code	47102
Severity	Major

Statistical Data Manager event codes (46700 to 47929)	
Description	An Operation, Administration and Maintenance (OAM) error has occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	47103
Severity	Major
Description	A Network Operation, Administration and Maintenance (OAM) error has occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	47104
Severity	Major
Description	A Symposium Call Center Toolkit error has occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	47105
Severity	Major
Description	A Telephony Service Manager (TSM) error has occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	47106
Severity	Information
Description	The Event Broker received a service state change from other components.
Recovery path	None
Event code	47107
Severity	Major

Statistical Data Manager event codes (46700 to 47929)	
Description	The Event Broker recovered from the invalid message sequence error by injecting the CallReleased message for one of the following: Local call, ACD call, NACD call, or DN call.
Recovery path	Note any error codes and contact Nortel support.
Event code	47108
Severity	Major
Description	The Event Broker recovered from the invalid message sequence error by injecting the GiveDefault message.
Recovery path	Note any error codes and contact Nortel support.
Event code	47109
Severity	Major
Description	The Event Broker recovered from the error by injecting the missing message.
Recovery path	Note any error codes and contact Nortel support.
Event code	47300
Severity	Information
Description	Unable to retrieve a value from the Windows NT registry. The default value will be used.
Recovery path	Note any error codes and contact Nortel support.
Event code	47301
Severity	Information
Description	The Operation, Administration and Maintenance (OAM) Application Protocol Interface (API) for getting the maximum number of skillsets failed. The default value will be used.
Recovery path	Note any error codes and contact Nortel support.
Event code	47302

Statistical Data Manager event codes (46700 to 47929)	
Severity	Critical
Description	Unable to register messages with the Data propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	47303
Severity	Minor
Description	An incorrect number of Skillset columns was returned from the Data Propagator in the new row list.
Recovery path	Note any error codes and contact Nortel support.
Event code	47304
Severity	Minor
Description	An incorrect number of Skillset columns was returned from the Data Propagator in the delta row list.
Recovery path	Note any error codes and contact Nortel support.
Event code	47305
Severity	Minor
Description	An incorrect number of Skillset columns was returned from the Data Propagator in the deleted row list.
Recovery path	Note any error codes and contact Nortel support.
Event code	47306
Severity	Minor
Description	Either there is a problem with the Collection data structure, or the Data Propagator returns the error "Invalid search key."
Recovery path	Note any error codes and contact Nortel support.
Event code	47307
Severity	Minor

Statistical Data Manager event codes (46700 to 47929)	
Description	Either there is a problem with the Collection data structure, or the Data Propagator returns the error “Missing search key.”
Recovery path	Note any error codes and contact Nortel support.
Event code	47308
Severity	Minor
Description	Unable to send a Skillset query request to the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	47309
Severity	Minor
Description	Unable to send a Nodal call query request to the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	47310
Severity	Minor
Description	Unable to deregister a query request with the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	47311
Severity	Minor
Description	An invalid Nodal Count tag was sent from the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.
Event code	47312
Severity	Minor
Description	An invalid Skillset tag was sent from the Data Propagator.
Recovery path	Note any error codes and contact Nortel support.

Statistical Data Manager event codes (46700 to 47929)	
Event code	47313
Severity	Minor
Description	Invalid tag ID
Recovery path	Note any error codes and contact Nortel support.
Event code	47314
Severity	Critical
Description	Failed to create shared memory during start-up
Recovery path	Note any error codes and contact Nortel support.
Event code	47315
Severity	Critical
Description	Failed to open the shared memory file during start-up
Recovery path	Note any error codes and contact Nortel support.
Event code	47316
Severity	Critical
Description	Failed to map to the shared memory file for write access during start-up
Recovery path	Note any error codes and contact Nortel support.
Event code	47317
Severity	Critical
Description	Failed to map to the shared memory file for read access during start-up
Recovery path	Note any error codes and contact Nortel support.
Event code	47318
Severity	Critical

Statistical Data Manager event codes (46700 to 47929)	
Description	Failed to detach shared memory
Recovery path	Note any error codes and contact Nortel support.
Event code	47319
Severity	Critical
Description	Failed to unmap to the shared memory
Recovery path	Note any error codes and contact Nortel support.
Event code	47700
Severity	Critical
Description	Cannot connect to the database server
Recovery path	Follow these steps: 1 Ensure that the registry values are correct for database login. 2 Restart the SQL Server and Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47701
Severity	Critical
Description	The Database connection object is invalid.
Recovery path	Follow these steps: 1 Ensure that the current number of database connections is equal to the configured maximum number of database connections. 2 Restart the SQL Server and Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47702
Severity	Critical

Statistical Data Manager event codes (46700 to 47929)	
Description	The Database client thread is not responding.
Recovery path	Follow these steps: 1 Ensure that the current number of database connections is equal to the configured maximum number of database connections. 2 Restart the SQL Server and Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47703
Severity	Critical
Description	The Historical Data Manager received a critical error from the database.
Recovery path	Follow these steps: 1 Refer to the <i>SYBASE SQL Server Error Messages</i> manual. 2 If recommended, restart the SQL Server and Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47704
Severity	Major
Description	The Historical Data Manager received a major error from the database.
Recovery path	Follow these steps: 1 Refer to the <i>SYBASE SQL Server Error Messages</i> manual. 2 If recommended, restart the SQL Server and Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47705

Statistical Data Manager event codes (46700 to 47929)	
Severity	Minor
Description	The Historical Data Manager received a minor error from the database.
Recovery path	Follow these steps: 1 Refer to the <i>SYBASE SQL Server Error Messages</i> manual. 2 If recommended, restart the SQL Server and Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47706
Severity	Debug
Description	A Call-by-Call data collection option for a particular application is deleted.
Recovery path	Note any error codes and contact Nortel support.
Event code	47710
Severity	Major
Description	Bulk copy initialization failed.
Recovery path	Follow these steps: 1 Ensure that the file name contains a valid statistics table name. 2 Restart the Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47711
Severity	Minor
Description	Unable to set the number of rows for each bulk copy batch
Recovery path	Note any error codes and contact Nortel support.

Statistical Data Manager event codes (46700 to 47929)	
Event code	47712
Severity	Major
Description	Cannot find the bulk copy format file
Recovery path	Follow these steps: 1 Ensure that the registry has the correct value. 2 Restart the Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47713
Severity	Major
Description	Bulk copy format file read failed
Recovery path	Note any error codes and contact Nortel support.
Event code	47714
Severity	Major
Description	Bulk copy of the statistics host file is incomplete.
Recovery path	Note any error codes and contact Nortel support.
Event code	47720
Severity	Major
Description	Cannot find the stored procedure in the database.
Recovery path	Follow these steps: 1 Ensure that the database contains the specified stored procedure using the ISQL database utility. 2 Restart the Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.

Statistical Data Manager event codes (46700 to 47929)	
Event code	47721
Severity	Major
Description	The stored procedure is invalid.
Recovery path	Follow these steps: 1 Ensure that the database contains the specified stored procedure using the ISQL database utility. 2 Restart the Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47722
Severity	Major
Description	An invalid parameter was passed to the stored procedure.
Recovery path	Note any error codes and contact Nortel support.
Event code	47723
Severity	Major
Description	Execution of the stored procedure is incomplete.
Recovery path	Note any error codes and contact Nortel support.
Event code	47730
Severity	Major
Description	Cannot find the statistics host file
Recovery path	Note any error codes and contact Nortel support.
Event code	47731
Severity	Major
Description	The Statistics host file name is invalid.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	Note any error codes and contact Nortel support.
Event code	47732
Severity	Minor
Description	Cannot delete the statistics host file
Recovery path	Note any error codes and contact Nortel support.
Event code	47740
Severity	Major
Description	A Call-by-Call data collection for a particular application was deleted.
Recovery path	Follow these steps: 1 Ensure that the NISStats TableName contains the specified row of data using the ISQL database utility. 2 Restart the Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47741
Severity	Major
Description	The Statistics table name is invalid.
Recovery path	Follow these steps: 1 Ensure that the NISStats TableName contains the specified row of data using the ISQL database utility. 2 Restart the Historical Data Manager. 3 If the problem persists, note any error codes and contact Nortel support.
Event code	47742
Severity	Major
Description	The StatsID is invalid.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	Note any error codes and contact Nortel support.
Event code	47743
Severity	Major
Description	The Statistics summarization level is invalid.
Recovery path	Note any error codes and contact Nortel support.
Event code	47750
Severity	Major
Description	The Historical Data Manager was not able to purge the specified statistics data due to a database error.
Recovery path	Note any error codes and contact Nortel support.
Event code	47751
Severity	Major
Description	The Historical Data Manager was not able to consolidate the specified statistics data due to a database error.
Recovery path	Note any error codes and contact Nortel support.
Event code	47760
Severity	Minor
Description	The Historical Data Manager received invalid statistics maintenance status data from the database.
Recovery path	Note any error codes and contact Nortel support.
Event code	47761
Severity	Minor
Description	The Historical Data Manager was not able to read the maintenance status for the specified statistics data.
Recovery path	Note any error codes and contact Nortel support.

Statistical Data Manager event codes (46700 to 47929)	
Event code	47762
Severity	Minor
Description	The Historical Data Manager was not able to set the maintenance status for the specified statistics data.
Recovery path	Note any error codes and contact Nortel support.
Event code	47763
Severity	Minor
Description	An invalid statistics ID was passed to get, or set, the statistics maintenance data.
Recovery path	Note any error codes and contact Nortel support.
Event code	47764
Severity	Minor
Description	An invalid statistics summarization level was passed to get, or set, the statistics maintenance data.
Recovery path	Note any error codes and contact Nortel support.
Event code	47780
Severity	Major
Description	The Historical Data Manager received invalid HDM configuration data from the database.
Recovery path	Note any error codes and contact Nortel support.
Event code	47781
Severity	Major
Description	The Historical Data Manager was not able to read the specified HDM configuration data from the database.
Recovery path	Note any error codes and contact Nortel support.

Statistical Data Manager event codes (46700 to 47929)	
Event code	47790
Severity	Minor
Description	The Historical Data Manager received an invalid message type.
Recovery path	Note any error codes and contact Nortel support.
Event code	47791
Severity	Major
Description	The Historical Data Manager was not able to send the specified message.
Recovery path	Note any error codes and contact Nortel support.
Event code	47792
Severity	Minor
Description	The Historical Data Manager was not able to set the timer.
Recovery path	Note any error codes and contact Nortel support.
Event code	47900
Severity	Information
Description	Unable to retrieve a value from the Windows NT registry. The default value will be used.
Recovery path	Note any error codes and contact Nortel support.
Event code	47901
Severity	Major
Description	Unable to claim a shared resource (for example, a “wait” system call failed)
Recovery path	Note any error codes and contact Nortel support.
Event code	47902

Statistical Data Manager event codes (46700 to 47929)	
Severity	Critical
Description	Unable to claim a shared resource (for example, a “wait” system call failed)
Recovery path	Note any error codes and contact Nortel support.
Event code	47902
Severity	Critical
Description	There was a critical failure in the Operation, Administration and Maintenance (OAM) Application Protocol Interface (API) call. The API name and return code are captured in the error log.
Recovery path	Note any error codes and contact Nortel support.
Event code	47903
Severity	Major
Description	There was a major failure in the Operation, Administration and Maintenance (OAM) Application Protocol Interface (API) call. The API name and return code are captured in the error log.
Recovery path	Note any error codes and contact Nortel support.
Event code	47904
Severity	Minor
Description	There was a minor failure in the Operation, Administration and Maintenance (OAM) Application Protocol Interface (API) call. The API name and return code are captured in the error log.
Recovery path	Note any error codes and contact Nortel support.
Event code	47905
Severity	Information
Description	An invalid execution path was detected. The error log contains the error context descriptions.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	None
Event code	47906
Severity	Critical
Description	An invalid execution path was detected. The error log contains the error context descriptions.
Recovery path	Note any error codes and contact Nortel support.
Event code	47907
Severity	Critical
Description	Statistical Data Manager (SDM) Configuration Administration is not able to register with the component described in the error log.
Recovery path	Note any error codes and contact Nortel support.
Event code	47908
Severity	Critical
Description	Statistical Data Manager (SDM) Configuration Administration is not able to connect to the client. The error log contains error context descriptions.
Recovery path	Note any error codes and contact Nortel support.
Event code	47909
Severity	Critical
Description	Statistical Data Manager (SDM) Configuration Administration is not able to send a "data collector(s) ready" message to the Event Broker.
Recovery path	Note any error codes and contact Nortel support.
Event code	47910
Severity	Critical

Statistical Data Manager event codes (46700 to 47929)	
Description	Statistical Data Manager (SDM) Configuration Administration is not able to able to send internal messages to itself.
Recovery path	Note any error codes and contact Nortel support.
Event code	47911
Severity	Minor
Description	Statistical Data Manager (SDM) Configuration Administration is not able to able to send data to the initialization client. The error log contains the client description.
Recovery path	Note any error codes and contact Nortel support.
Event code	47912
Severity	Minor
Description	Statistical Data Manager (SDM) Configuration Administration is not able to able to send event notification messages to a client. The error log contains the client description.
Recovery path	Note any error codes and contact Nortel support.
Event code	47913
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration receives “service down” notification for the component described in the error log.
Recovery path	None
Event code	47914
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration receives “service up” notification for the component described in the error log.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	None
Event code	47915
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration receives “initialization request” from a client. The error log contains the client description.
Recovery path	Note any error codes and contact Nortel support.
Event code	47916
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration receives “initialization done” from a client.
Recovery path	None
Event code	47917
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration receives “initialization synchronization cut-off” message. This message indicates the end of initialization.
Recovery path	None.
Event code	47918
Severity	Minor
Description	A Statistical Data Manager (SDM) Configuration Administration time-out occurred while expecting “Initialization Done” message from the initialization client identified in the Error log.
Recovery path	Note any error codes and contact Nortel support.
Event code	47919
Severity	Information

Statistical Data Manager event codes (46700 to 47929)	
Description	Statistical Data Manager (SDM) Configuration Administration has received a request to re-initialize itself.
Recovery path	None
Event code	47920
Severity	Minor
Description	Unable to send a message to the other Statistical Data Manager (SDM) components
Recovery path	Note any error codes and contact Nortel support.
Event code	47921
Severity	Minor
Description	An unexpected message was received during initialization.
Recovery path	Note any error codes and contact Nortel support.
Event code	47922
Severity	Information
Description	Failure in updating message cache
Recovery path	None
Event code	47925
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration has detected a Symposium Call Center Toolkit error.
Recovery path	None
Event code	47926
Severity	Minor
Description	Statistical Data Manager (SDM) Configuration Administration has detected a minor Symposium Call Center Toolkit error.

Statistical Data Manager event codes (46700 to 47929)	
Recovery path	Note any error codes and contact Nortel support.
Event code	47927
Severity	Major
Description	Statistical Data Manager (SDM) Configuration Administration has detected a major Symposium Call Center Toolkit error.
Recovery path	Note any error codes and contact Nortel support.
Event code	47928
Severity	Information
Description	Statistical Data Manager (SDM) Configuration Administration has received a “shutdown” message.
Recovery path	None
Event code	47929
Severity	Critical
Description	Statistical Data Manager (SDM) Configuration Administration failed to start up due to either a memory allocation problem, or a Symposium Call Center Toolkit problem.
Recovery path	Note any error codes and contact Nortel support.

Data Propagation event codes (47500 to 47536)

Introduction

The following section lists the Data Propagation event codes (47500 to 47536) generated by Symposium server features.

Data Propagation event codes (47500 to 47536)	
Event code	47500
Severity	Critical
Description	Failure to allocate a new listener
Recovery path	Note any error codes and contact Nortel support.
Event code	47501
Severity	Critical
Description	Failure to allocate a new scheduler
Recovery path	Note any error codes and contact Nortel support.
Event code	47502
Severity	Critical
Description	Failure to allocate a new propagator
Recovery path	Note any error codes and contact Nortel support.
Event code	47505
Severity	Critical
Description	Failure to allocate a new request object
Recovery path	Note any error codes and contact Nortel support.
Event code	47506
Severity	Critical
Description	Failure to allocate a new, or find an existing, communication proxy to communicate with the remote client

Data Propagation event codes (47500 to 47536)	
Recovery path	Note any error codes and contact Nortel support.
Event code	47507
Severity	Minor
Description	Failure to allocate a new communication proxy to communicate with the remote client
Recovery path	The remote client may no longer exist, or may have failed.
Event code	47509
Severity	Minor
Description	Either a communication error has occurred with the Real-time Data Collector, or a problem exists in the query defined by the client. Multiple clients can be associated with a multi-referenced query. The client will receive an error indicating that a problem has occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	47510
Severity	Minor
Description	An attempt to remove a query from the Real-time Data Collector has failed. There should be no client impact, but future registrations may be affected.
Recovery path	Note any error codes and contact Nortel support.
Event code	47511
Severity	Critical
Description	Unable to register for the propagation of an event. The Data Propagator service will terminate.
Recovery path	Note any error codes and contact Nortel support.
Event code	47512
Severity	Critical

Data Propagation event codes (47500 to 47536)	
Description	Failure to register message buffering for the listener. The Data Propagator service will terminate.
Recovery path	Note any error codes and contact Nortel support.
Event code	47513
Severity	Debug
Description	Unhandled event
Recovery path	Note any error codes and contact Nortel support.
Event code	47514
Severity	Debug
Description	The Registration tag ID was not found.
Recovery path	Note any error codes and contact Nortel support.
Event code	47515
Severity	Minor
Description	Failed to notify a scheduler or propagator of waiting requests
Recovery path	Note any error codes and contact Nortel support.
Event code	47516
Severity	Debug
Description	Failed to wait for child threads to complete
Recovery path	Note any error codes and contact Nortel support.
Event code	47519
Severity	Minor
Description	An attempt to execute a query with the Real-time Data Collector has failed.
Recovery path	Note any error codes and contact Nortel support.

Data Propagation event codes (47500 to 47536)	
Event code	47522
Severity	Minor
Description	Failed to allocate a client registration message for a query definition
Recovery path	Note any error codes and contact Nortel support.
Event code	47523
Severity	Minor
Description	A client registration has requested a priority that is out of range.
Recovery path	Note any error codes and contact Nortel support.
Event code	47524
Severity	Minor
Description	A client communication send operation failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	47525
Severity	Critical
Description	Failure to set the service state
Recovery path	Note any error codes and contact Nortel support.
Event code	47526
Severity	Critical
Description	Failure to start the listener
Recovery path	Note any error codes and contact Nortel support.
Event code	47527
Severity	Critical
Description	Failure to start a scheduler

Data Propagation event codes (47500 to 47536)	
Recovery path	Note any error codes and contact Nortel support.
Event code	47528
Severity	Critical
Description	Failure to start a propagator
Recovery path	Note any error codes and contact Nortel support.
Event code	47529
Severity	Critical
Description	Failure to start the data propagation service object
Recovery path	Note any error codes and contact Nortel support.
Event code	47530
Severity	Major
Description	The listener was wrongly requested to terminate.
Recovery path	Note any error codes and contact Nortel support.
Event code	47531
Severity	Major
Description	A scheduler was wrongly requested to terminate.
Recovery path	Note any error codes and contact Nortel support.
Event code	47532
Severity	Minor
Description	Failure to allocate a new query object
Recovery path	Restart the client application; a problem may exist with the real-time display client. If the problem persists, contact Nortel support.
Event code	47535

Data Propagation event codes (47500 to 47536)	
Severity	Debug
Description	Indicates the start of an internal measurement utility
Recovery path	None
Event code	47536
Severity	Debug
Description	Indicates the termination of an internal measurement utility
Recovery path	None

Agent Skillset Manager event codes (48100 to 48195)

Introduction

The following section lists the Agent Skillset Manager event codes (48100 to 48195) generated by Symposium server features.

Agent Skillset Manager event codes (48100 to 48195)	
Event code	48100
Severity	Critical
Description	Out of memory
Recovery path	Perform one or all of the following actions: 1 Ensure the system resources meet the software requirements. 2 Shut down other applications to free up memory resources. 3 Restart ASM. 4 Reboot the SCCS server. Note: During steps 3 and 4, the agents will not be able to receive SCCS calls. If the problem persists, note any error codes and contact Nortel support.
Event code	48101
Severity	Critical
Description	The Application Protocol Interface (API) encountered an error during initialization.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM or the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48102
Severity	Critical
Description	The System Thread failed to start.
Recovery path	Perform one or both of the following actions: 1 Restart ASM 2 Reboot the SCCS server. Note: Restarting the ASM or the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48103
Severity	Critical
Description	The shared memory failed.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Ensure the system resources meet the software requirements. 2 Shut down other applications to free up memory resources. 3 Restart ASM. 4 Reboot the SCCS server. Note: Restarting the ASM or the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48104
Severity	Major
Description	Controlled Directory Number could not be acquired from the switch
Recovery path	Perform one or all of the following actions: 1 Verify that the CDN is valid and not used by other switch applications. 2 Check the connection between the SCCS server and the switch. 3 Ensure the switch is running during the acquire. 4 Restart ASM if necessary. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48105
Severity	Minor
Description	Controlled Directory Number (CDN) could not be released from the switch

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Check the connection between the SCCS server and the switch. 2 Try to deacquire the CDN again. 3 Delete the CDN on the switch. If the problem persists, note any error codes and contact Nortel support.
Event code	48106
Severity	Major
Description	Terminal Number (TN) could not be acquired from the switch
Recovery path	Perform one or both of the following actions: 1 Verify that the TNs match those on the switch. Make any appropriate changes, and try to acquire the TN again. 2 Check the connection between the SCCS server and the switch. If the problem persists, note any error codes and contact Nortel support.
Event code	48107
Severity	Minor
Description	The Terminal Number (TN) could not be released.
Recovery path	Perform one or all of the following actions: 1 Check the connection between the SCCS server and the switch. 2 Try to deacquire the TN again. 3 Delete the TN on the switch and add it back into the switch configuration. If the problem persists, note any error codes and contact Nortel support.
Event code	48108
Severity	Major

Agent Skillset Manager event codes (48100 to 48195)	
Description	A resource received an invalid event.
Recovery path	Perform one or all of the following actions: 1 Delete the suspected TN and CDN on the SCCS server. Add them back to the server and try to reacquire them. 2 Delete the suspected TN and CDN on the switch, and add them back. 3 Restart ASM if necessary. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48109
Severity	Major
Description	DN storage error.
Recovery path	Perform one or all of the following actions: 1 Delete the CDN/DN from SCCS configuration, and add them back. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48110
Severity	Major
Description	Terminal Number (TN) storage error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Delete the TN from SCCS configuration, and add them back. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48111
Severity	Major
Description	A major internal error occurred while an agent attempted to login.
Recovery path	Perform one or all of the following actions: 1 Delete and reconfigure the TN the agent is logging in to. 2 Delete and reconfigure the agent. 3 Restart ASM. 4 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48112
Severity	Major
Description	An error occurred while accessing the agent in memory.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48113
Severity	Minor
Description	Login warning. An agent is logging in with incomplete information.
Recovery path	Ensure the agent's supervisor position ID is valid. Ensure the agent's supervision AGT key is valid. If the problem persists, note any error codes and contact Nortel support.
Event code	48114
Severity	Minor
Description	A minor user error occurred while an agent attempted to log in.
Recovery path	Ensure the agent login ID is valid. Ensure the TN is valid. Ensure the agent is not logged on to another phoneset already. Ensure the agent position ID is not in use already. If the problem persists, note any error codes and contact Nortel support.
Event code	48115
Severity	Minor
Description	Call forwarding error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Check the following: 1 The DN for this set was acquired. 2 The agent has successfully logged on to a phone set 3 The call forward feature is enabled. If the problem persists, note any error codes and contact Nortel support.
Event code	48116
Severity	Minor
Description	Call forward cancelling error.
Recovery path	Perform one or all of the following actions: 1 Ensure the DN is valid. 2 Log the agent off, delete the DN, add the DN back to the system, and try again. 3 Restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48117
Severity	Major
Description	Interprocess Communications error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Ensure all SCCS components are running properly. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48118
Severity	Information
Description	An internal system call failed to execute.
Recovery path	Note any error codes and contact Nortel support.
Event code	48119
Severity	Major
Description	Application Protocol Interface (API) error
Recovery path	Perform one or all of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes, messages, or system information, and contact Nortel support.
Event code	48120
Severity	Minor
Description	An invalid queue ID was detected.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	If the problem persists, restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 the script used 3 server, client, and switch software used
Event code	48121
Severity	Major
Description	Invalid queue information was detected for a call or agent.
Recovery path	Check whether any queue to skillset or queue to agent operation for a call is not functioning properly. If these are not functioning properly, remove the corresponding agent/skillset from the client and add it back again. If the problem persists, restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 the script used 3 server, client, and switch software used
Event code	48122
Severity	Minor
Description	Agent status error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform any or all of the following: 1 Not Ready and Ready the agent. 2 Log out and log in as the agent (if permitted). 3 Delete the agent from the client and add the agent back to the client. 4 Restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 what happened to the agent before the error occurred
Event code	48123
Severity	Minor
Description	Individual directory number (IDN) Call status error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	If the problem persists, perform any or all of the following: 1 Close other applications to free memory resources. 2 Log out and log in as the agent. 3 Delete the agent from the client and add the agent back. 4 Restart ASM. 5 Reboot the SCCS server. Note: Restarting the ASM will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 what happened to the agent before the error occurred
Event code	48124
Severity	Minor
Description	Unable to route the call to the remote target agent
Recovery path	Note any error codes and contact Nortel support.
Event code	48125
Severity	Major
Description	Unable to present the call to the local agent
Recovery path	If the problem persists, note the following and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 the script used 4 whether the problem occurs after a setting on the client, switch, or phonesets
Event code	48126

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Major
Description	Queue error
Recovery path	If the problem persists, restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive CDN calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 what actions were performed, and what happened to the agent before the error occurred
Event code	48127
Severity	Major
Description	Queue information error
Recovery path	If the problem persists, restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive CDN calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 the script used 4 what happened to the agent before the error occurred
Event code	48128
Severity	Minor
Description	Resource error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	If the problem persists, restart ASM. Note: Restarting the ASM will take several minutes. The agents will not be able to receive CDN calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 the script used 4 what happened to the agent before the error occurred
Event code	48129
Severity	Critical
Description	Queue Set error
Recovery path	If the problem persists, perform any or all of the following: 1 Close all other applications to free memory resources. 2 Restart ASM. 3 Reboot the SCCS server Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following, and contact Nortel support: 1 error codes and messages 2 server, client, and switch software used 3 what happened to the agent before the error occurred
Event code	48130
Severity	Major
Description	Operation, Administration, and Maintenance error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform any or all of the following actions: 1 Ensure the OAM service is running. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch used 3 what happened to the agent before the error occurred
Event code	48131
Severity	Major
Description	Agent template source error
Recovery path	Perform any or all of the following actions: 1 Close other applications to free memory resources. 2 Reconfigure the Call Presentation Call of the agent. 3 Restart ASM. 4 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch used 3 what happened to the agent before the error occurred
Event code	48132
Severity	Critical

Agent Skillset Manager event codes (48100 to 48195)	
Description	File mapping error
Recovery path	Perform any or all of the following actions: 1 Close other applications to free memory resources. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch used 3 what actions or series of actions were performed and what happened to the system before the error occurred
Event code	48133
Severity	Major
Description	The intrinsic DLL cannot access the queue.
Recovery path	Perform any or all of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch used 3 what happened to the agent before the error occurred
Event code	48134
Severity	Critical

Agent Skillset Manager event codes (48100 to 48195)	
Description	ASM start-up error
Recovery path	Restart the ASM if it does not restart itself. If the problem continues, reboot the server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes or messages and contact Nortel support.
Event code	48135
Severity	Major
Description	The transaction was not inserted.
Recovery path	Perform the transaction again. If the problem persists, perform one or all of the following: 1 Close all other applications to free memory resources. 2 Restart ASM. 3 Reboot the server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what actions or series of actions were performed, and what happened to the system before the error occurred
Event code	48136
Severity	Minor

Agent Skillset Manager event codes (48100 to 48195)	
Description	No agent was found for the event.
Recovery path	Restart the ASM or reboot the server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what actions or series of actions were performed, and what happened to the system before the error occurred
Event code	48138
Severity	Major
Description	The Call Source data structure is corrupted.
Recovery path	Perform one or both of the following: 1 Restart ASM. 2 Reboot the server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem continues, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 the script used 4 what actions or series of actions were performed, and what happened to the system before the error occurred
Event code	48141

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Major
Description	A message could not be sent to another application/service.
Recovery path	Perform one or all of the following: 1 Allow SCCS several minutes to process the backlog of events in the queue. 2 Ensure all SCCS services are running. 3 Restart EB service 4 Restart ASM. 5 Reboot the server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime.
Event code	48142
Severity	Major
Description	A call with the specified call ID already exists.
Recovery path	Note any error codes and contact Nortel support.
Event code	48143
Severity	Minor
Description	DN acquire failed.
Recovery path	Verify the server and switch connections. Ensure the DN is valid on an AST set or a phantom DN and try the procedure again. Note any error codes and contact Nortel support.
Event code	48144
Severity	Major
Description	A semaphore error has occurred.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Restart the system. If the problem persists, record the error cause and take corrective action based on the cause. Contact Nortel support for more information.
Event code	48145
Severity	Minor
Description	Database list queue error
Recovery path	Restart ASM. If the problem persists, note any error codes and contact Nortel support.
Event code	48146
Severity	Major
Description	DList Error
Recovery path	Perform one or all of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48147
Severity	Minor
Description	Failed to delete the Template Memory Manager and subsequent memory leak
Recovery path	Note any error codes and contact Nortel support.
Event code	48148

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Major
Description	Invalid call ordering
Recovery path	Perform one or all of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48149
Severity	Major
Description	The call could not be created.
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48150
Severity	Minor
Description	Cannot route the call to the Agent due to a Telephony Service Manager (TSM) error
Recovery path	Note any error codes and contact Nortel support.
Event code	48151

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Major
Description	Event error
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48152
Severity	Minor
Description	The system thread failed to terminate.
Recovery path	Manually shut down this thread. Note: Manually shutting down a thread may cause loss of unsaved data. Note any error codes and contact Nortel support.
Event code	48153
Severity	Minor
Description	Timer error
Recovery path	If the problem continues, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 other system configuration or information 4 steps to reproduce the problem

Agent Skillset Manager event codes (48100 to 48195)	
Event code	48154
Severity	Major
Description	Transaction Pool error
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48155
Severity	Minor
Description	Unhandled Telephony Service Manager (TSM) event received by ASM
Recovery path	Note any error codes and contact Nortel support.
Event code	48156
Severity	Minor
Description	Cannot retrieve the Telephony Service Manager (TSM) events successfully.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Restart ASM. 2 Restart TSM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48157
Severity	Minor
Description	Telephony Service Manager (TSM) Message Sent error
Recovery path	Perform one or all of the following actions: 1 Restart ASM. 2 Restart TSM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48158
Severity	Critical
Description	Telephony Service Manager (TSM) Registration error
Recovery path	Restart NBTSM_Service. Restart ASM-Service. If the problem persists, note any error codes and contact Nortel support.
Event code	48159
Severity	Minor

Agent Skillset Manager event codes (48100 to 48195)	
Description	Unknown device ID or device type from TSM
Recovery path	Perform one or all of the following actions: 1 Restart ASM. 2 Restart TSM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note any error codes and contact Nortel support.
Event code	48160
Severity	Minor
Description	DN could not be released from the M1.
Recovery path	Perform one or all of the following actions: 1 Ensure that the new DN provided in the agent profile is valid and not already altered by another application. 2 Ensure that all services are running properly. 3 Ensure that the link to the switch is connected. 4 Restart ASM. 5 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and software switch used 3 what action or series of actions were performed, and what happened to the system before the error occurred
Event code	48162

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Minor
Description	DNode Key error
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 the script used 4 what action or series of actions were performed and what happened to the server before the error occurred
Event code	48163
Severity	Major
Description	Handle Manager has experienced a problem in creating and inserting semaphore handles.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Close all other applications to free memory resources. 2 Restart ASM. 3 Reboot the SCCS server Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. If the problem persists, note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what happened to the agent before the error occurred
Event code	48164
Severity	Minor
Description	No skillset is available for the event received.
Recovery path	Retry the operation. If the problem persists, perform one or all of the following actions: 1 Remove the skillset from the client and start again. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what happened to the skillset before the error occurred
Event code	48165
Severity	Minor

Agent Skillset Manager event codes (48100 to 48195)	
Description	Invalid Skillset service mode
Recovery path	Retry the operation. If the problem persists, perform one or all of the following actions: 1 Remove the skillset from the client and start again. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what happened to the skillset before the error occurred
Event code	48166
Severity	Minor
Description	Invalid Skillset ID
Recovery path	Note any error codes and contact Nortel support.
Event code	48167
Severity	Minor
Description	The skillset already exists.
Recovery path	Note any error codes and contact Nortel support.
Event code	48169
Severity	Minor
Description	No network call is available for request received.
Recovery path	Note any error codes and contact Nortel support.
Event code	48171

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Minor
Description	Invalid position ID
Recovery path	Note any error codes and contact Nortel support.
Event code	48173
Severity	Major
Description	Network Queue ID error
Recovery path	Note any error codes and contact Nortel support.
Event code	48174
Severity	Minor
Description	No call is available for the received event.
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 the script used 4 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48175
Severity	Minor
Description	Invalid registry setting
Recovery path	Note any error codes and contact Nortel support.

Agent Skillset Manager event codes (48100 to 48195)	
Event code	48176
Severity	Major
Description	Cannot delete the M1 Network Agent
Recovery path	Note any error codes and contact Nortel support.
Event code	48177
Severity	Major
Description	Unable to defer the task
Recovery path	Retry the operation. If the problem persists, perform one or all of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48178
Severity	Major
Description	Slist error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the systems before the error occurred
Event code	48179
Severity	Major
Description	The message containing the invalid field has been discarded. The discarded message is indicated by the function name. This will impact reporting for an agent or a call.
Recovery path	Note any error codes and contact Nortel support.
Event code	48180
Severity	Major
Description	Template Memory Manager error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48181
Severity	Minor
Description	Failed to respond to the TSM sanity poll
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48182
Severity	Information
Description	The Agent Skillset Manager is starting.

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	None
Event code	48183
Severity	Minor
Description	Cannot add or remove an agent to or from some internal structure.
Recovery path	Perform one or all of the following actions: 1 Log out, delete, recreate, and log back in to the agent. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred.
Event code	48184
Severity	Minor
Description	Unknown display type

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or all of the following actions: 1 Ensure the phone set display type of the phone set is configured properly or is supported by the current release of SCCS. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48185
Severity	Major
Description	DNIS source error.
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48186
Severity	Minor

Agent Skillset Manager event codes (48100 to 48195)	
Description	Route Source error
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48187
Severity	Major
Description	Next Generation (NGEN) Base Application Protocol Interface (API) error
Recovery path	Perform one or all of the following actions: 1 Ensure that all NGen services are running properly. 2 Restart ASM. 3 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48188

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Major
Description	An error occurred in referencing the Agent Dictionary information.
Recovery path	Retry the operation. If the problem persists, perform one or all of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48189
Severity	Information
Description	The Agent Skillset Manager is operational.
Recovery path	None
Event code	48190
Severity	Information
Description	The Agent Skillset Manager is shutting down.
Recovery path	None
Event code	48191
Severity	Major
Description	FIFO Queue error

Agent Skillset Manager event codes (48100 to 48195)	
Recovery path	Perform one or both of the following actions: 1 Restart ASM. 2 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 Error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48192
Severity	Minor
Description	TN Static Release Failure
Recovery path	Perform one or all of the following actions: 1 Ensure that all NGen services are running properly. 2 Ensure that the link to the switch is connected. 3 Restart ASM. 4 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48193

Agent Skillset Manager event codes (48100 to 48195)	
Severity	Minor
Description	CDN Static Release Failure
Recovery path	Perform one or all of the following actions: 1 Ensure that all NGen services are running properly. 2 Ensure that the link to the switch is connected. 3 Restart ASM. 4 Reboot the SCCS server. Note: Restarting the ASM and the SCCS server will take several minutes. The agents will not be able to receive SCCS calls during this downtime. Note the following and contact Nortel support: 1 error codes or messages 2 server, client, and switch software used 3 what action or series of actions were performed and what happened to the system before the error occurred
Event code	48194
Severity	Information
Description	TN could not be released from M1 using device ID
Recovery path	None
Event code	48195
Severity	Information
Description	CDN could not be released from M1 using device ID
Recovery path	None

Task Flow Executor event codes (48401 to 48530)

Introduction

The following section lists the Task Flow Executor event codes (48401 to 48530) generated by Symposium server features.

Task Flow Executor event codes (48401 to 48530)	
Event code	48401
Severity	Critical
Description	Call processing was stopped due to an unrecoverable error.
Recovery path	Note any error codes and contact Nortel support.
Event code	48402
Severity	Critical
Description	Call processing cannot establish communication with the Agent Skillset Manager.
Recovery path	Note any error codes and contact Nortel support.
Event code	48403
Severity	Critical
Description	Call processing is out of memory.
Recovery path	Note any error codes and contact Nortel support.
Event code	48404
Severity	Major
Description	File read error
Recovery path	Note any error codes and contact Nortel support.
Event code	48405
Severity	Major
Description	File write error

Task Flow Executor event codes (48401 to 48530)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48406
Severity	Major
Description	File create error
Recovery path	Note any error codes and contact Nortel support.
Event code	48407
Severity	Critical
Description	File open error
Recovery path	Note any error codes and contact Nortel support.
Event code	48408
Severity	Critical
Description	The internal data structures in call processing are overflowing.
Recovery path	Note any error codes and contact Nortel support.
Event code	48409
Severity	Critical
Description	The system profile contains invalid data.
Recovery path	Note any error codes and contact Nortel support.
Event code	48410
Severity	Critical
Description	The Application Protocol Interface (API) call failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48411
Severity	Critical

Task Flow Executor event codes (48401 to 48530)	
Description	Unable to establish a communications path for the SL-1
Recovery path	Note any error codes and contact Nortel support.
Event code	48412
Severity	Critical
Description	Unable to establish a communications path for the SL-1
Recovery path	Note any error codes and contact Nortel support.
Event code	48413
Severity	Critical
Description	The process was unable to respond to polling, and has been terminated.
Recovery path	Note any error codes and contact Nortel support.
Event code	48414
Severity	Critical
Description	Controlled Directory Number (CDN) acquire failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48415
Severity	Critical
Description	Package query failed
Recovery path	Note any error codes and contact Nortel support
Event code	48416
Severity	Critical
Description	Application deregistration failed.
Recovery path	Note any error codes and contact Nortel support.

Task Flow Executor event codes (48401 to 48530)	
Event code	48417
Severity	Major
Description	The Controlled Directory Number (CDN) acquire release failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48418
Severity	Major
Description	An invalid message was received.
Recovery path	Note any error codes and contact Nortel support.
Event code	48419
Severity	Information
Description	Link congestion is reported by the SL-1.
Recovery path	Note any error codes and contact Nortel support.
Event code	48420
Severity	Minor
Description	Application protocol violation
Recovery path	Note any error codes and contact Nortel support.
Event code	48421
Severity	Critical
Description	SL-1 link down
Recovery path	Note any error codes and contact Nortel support.
Event code	48422
Severity	Information
Description	SL-1 initialized

Task Flow Executor event codes (48401 to 48530)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48423
Severity	Major
Description	Task flow execution exception
Recovery path	Note any error codes and contact Nortel support.
Event code	48424
Severity	Critical
Description	Call rejected
Recovery path	Note any error codes and contact Nortel support.
Event code	48425
Severity	Major
Description	A flow control level 2 indication was received from the SL-1.
Recovery path	Note any error codes and contact Nortel support.
Event code	48426
Severity	Major
Description	A flow control level 3 indication was received from the SL-1.
Recovery path	Note any error codes and contact Nortel support.
Event code	48427
Severity	Major
Description	An invalid Controlled Directory Number (CDN) was received.
Recovery path	Note any error codes and contact Nortel support.
Event code	48428
Severity	Major

Task Flow Executor event codes (48401 to 48530)	
Description	A Controlled Directory Number was released from the system.
Recovery path	Note any error codes and contact Nortel support.
Event code	48429
Severity	Major
Description	A Controlled Directory Number acquire error occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	48430
Severity	Major
Description	A Controlled Directory Number acquire release error occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	48431
Severity	Major
Description	A Controlled Directory Number state change request failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48432
Severity	Major
Description	An application registration error occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	48433
Severity	Minor
Description	Invalid reason
Recovery path	Note any error codes and contact Nortel support.
Event code	48434

Task Flow Executor event codes (48401 to 48530)	
Severity	Major
Description	The Controlled Directory Number is in a wrong state.
Recovery path	Note any error codes and contact Nortel support.
Event code	48435
Severity	Major
Description	The continuity test failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48436
Severity	Minor
Description	The call treatment failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48437
Severity	Minor
Description	The queue count is out of range.
Recovery path	Note any error codes and contact Nortel support.
Event code	48438
Severity	Major
Description	The call defaulted through an internal mechanism.
Recovery path	Note any error codes and contact Nortel support.
Event code	48439
Severity	Major
Description	The default skillset for the system is not configured.
Recovery path	Note any error codes and contact Nortel support.

Task Flow Executor event codes (48401 to 48530)	
Event code	48440
Severity	Major
Description	The default Recorded Announcement (RAN) for the system is not configured.
Recovery path	Note any error codes and contact Nortel support.
Event code	48441
Severity	Minor
Description	The default Recorded Announcement (RAN) failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48442
Severity	Major
Description	The stack operation exception occurred during call processing.
Recovery path	Note any error codes and contact Nortel support.
Event code	48443
Severity	Major
Description	The package query failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48444
Severity	Information
Description	A Flow Control level 1 indication was received from the SL-1.
Recovery path	None
Event code	48445
Severity	Major

Task Flow Executor event codes (48401 to 48530)	
Description	A request to change Controlled Directory Number to controlled mode timed out.
Recovery path	Note any error codes and contact Nortel support.
Event code	48446
Severity	Major
Description	A request to change Controlled Directory Number to default mode timed out.
Recovery path	Note any error codes and contact Nortel support.
Event code	48447
Severity	Major
Description	A call was removed due to a system time-out.
Recovery path	Note any error codes and contact Nortel support.
Event code	48448
Severity	Information
Description	The SL-1 link up has been established.
Recovery path	None
Event code	48449
Severity	Information
Description	The application was shut down at the request of the user.
Recovery path	None
Event code	48450
Severity	Information
Description	The Task Flow Executor has started.
Recovery path	None

Task Flow Executor event codes (48401 to 48530)	
Event code	48451
Severity	Information
Description	A Flow Control level 0 indication was received from the SL-1.
Recovery path	None
Event code	48452
Severity	Information
Description	Interactive Voice Response (IVR) was canceled.
Recovery path	None
Event code	48453
Severity	Minor
Description	Invalid message type
Recovery path	Note any error codes and contact Nortel support.
Event code	48454
Severity	Minor
Description	Invalid Automatic Call Distribution (ACD) priority
Recovery path	Note any error codes and contact Nortel support.
Event code	48455
Severity	Minor
Description	Automatic Call Distributor (ACD) cannot be inserted into the ACD list.
Recovery path	Note any error codes and contact Nortel support.
Event code	48456
Severity	Minor

Task Flow Executor event codes (48401 to 48530)	
Description	Automatic Call Distributor (ACD) cannot be removed from the ACD list.
Recovery path	Note any error codes and contact Nortel support.
Event code	48457
Severity	Minor
Description	The Delay Time value is out of range.
Recovery path	Note any error codes and contact Nortel support.
Event code	48458
Severity	Minor
Description	Invalid message subtype
Recovery path	Note any error codes and contact Nortel support.
Event code	48459
Severity	Minor
Description	Invalid call state
Recovery path	Note any error codes and contact Nortel support.
Event code	48460
Severity	Minor
Description	Invalid call ID
Recovery path	Note any error codes and contact Nortel support.
Event code	48461
Severity	Major
Description	Invalid data inside message
Recovery path	Note any error codes and contact Nortel support.

Task Flow Executor event codes (48401 to 48530)	
Event code	48464
Severity	Major
Description	A possible loss of Global or Call variable data has occurred.
Recovery path	Note any error codes and contact Nortel support.
Event code	48465
Severity	Major
Description	Failed to insert a call variable
Recovery path	Note any error codes and contact Nortel support.
Event code	48466
Severity	Major
Description	Unknown variable data type
Recovery path	Note any error codes and contact Nortel support.
Event code	48467
Severity	Information
Description	Script log message
Recovery path	None
Event code	48468
Severity	Minor
Description	The call is in another list.
Recovery path	Note any error codes and contact Nortel support.
Event code	48469
Severity	Major
Description	Unknown script

Task Flow Executor event codes (48401 to 48530)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48470
Severity	Major
Description	Error in the Operation, Administration, and Maintenance (OAM) Application Protocol Interface (API)
Recovery path	Note any error codes and contact Nortel support.
Event code	48471
Severity	Major
Description	Cannot get queue key
Recovery path	Note any error codes and contact Nortel support.
Event code	48472
Severity	Major
Description	Illegal queue ID request
Recovery path	Note any error codes and contact Nortel support.
Event code	48473
Severity	Major
Description	Unknown package number
Recovery path	Note any error codes and contact Nortel support.
Event code	48474
Severity	Minor
Description	Unknown Agent Skillset Manager command
Recovery path	Note any error codes and contact Nortel support.
Event code	48475

Task Flow Executor event codes (48401 to 48530)	
Severity	Minor
Description	Unknown third-party command
Recovery path	Note any error codes and contact Nortel support.
Event code	48477
Severity	Major
Description	Unknown response event
Recovery path	Note any error codes and contact Nortel support.
Event code	48478
Severity	Major
Description	Cannot change the Controlled Directory Number type
Recovery path	Note any error codes and contact Nortel support.
Event code	48479
Severity	Major
Description	Invalid resource name
Recovery path	Note any error codes and contact Nortel support.
Event code	48480
Severity	Major
Description	The script file is corrupted.
Recovery path	Note any error codes and contact Nortel support.
Event code	48481
Severity	Major
Description	The maximum thread limit was exceeded.
Recovery path	Note any error codes and contact Nortel support.

Task Flow Executor event codes (48401 to 48530)	
Event code	48482
Severity	Major
Description	The thread handle was not found.
Recovery path	Note any error codes and contact Nortel support.
Event code	48483
Severity	Major
Description	Invalid type
Recovery path	Note any error codes and contact Nortel support.
Event code	48484
Severity	Minor
Description	Invalid state
Recovery path	Note any error codes and contact Nortel support.
Event code	48485
Severity	Major
Description	An unknown operation was encountered.
Recovery path	Note any error codes and contact Nortel support.
Event code	48485
Severity	Major
Description	Failed to retrieve skillsets
Recovery path	Note any error codes and contact Nortel support.
Event code	48487
Severity	Major
Description	Invalid event

Task Flow Executor event codes (48401 to 48530)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48488
Severity	Major
Description	Failed to get master script executable
Recovery path	Note any error codes and contact Nortel support.
Event code	48489
Severity	Major
Description	Failed to get mask script
Recovery path	Note any error codes and contact Nortel support.
Event code	48490
Severity	Major
Description	Failed to set master script status
Recovery path	Note any error codes and contact Nortel support.
Event code	48491
Severity	Major
Description	Failed to activate master script
Recovery path	Note any error codes and contact Nortel support.
Event code	48492
Severity	Major
Description	Failed to get network master script executable
Recovery path	Note any error codes and contact Nortel support.
Event code	48493
Severity	Major

Task Flow Executor event codes (48401 to 48530)	
Description	Failed to get network master script
Recovery path	Note any error codes and contact Nortel support.
Event code	48494
Severity	Major
Description	Failed to set network master script status
Recovery path	Note any error codes and contact Nortel support.
Event code	48495
Severity	Major
Description	Failed to activate network master script
Recovery path	Note any error codes and contact Nortel support.
Event code	48496
Severity	Major
Description	Cannot initialize internal message queue
Recovery path	Note any error codes and contact Nortel support.
Event code	48497
Severity	Minor
Description	The total number of items exceeds the maximum items.
Recovery path	Note any error codes and contact Nortel support.
Event code	48498
Severity	Major
Description	Invalid item
Recovery path	Note any error codes and contact Nortel support.
Event code	48499

Task Flow Executor event codes (48401 to 48530)	
Severity	Major
Description	Error loading script
Recovery path	Note any error codes and contact Nortel support.
Event code	48500
Severity	Minor
Description	Voice segment is corrupted
Recovery path	Note any error codes and contact Nortel support.
Event code	48501
Severity	Major
Description	The Voice Services Manager (VSM) request failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48502
Severity	Major
Description	Error opening script file
Recovery path	Note any error codes and contact Nortel support.
Event code	48503
Severity	Major
Description	Error reading script file
Recovery path	Note any error codes and contact Nortel support.
Event code	48504
Severity	Major
Description	The script file is not a SLANG object.
Recovery path	Note any error codes and contact Nortel support.

Task Flow Executor event codes (48401 to 48530)	
Event code	48505
Severity	Major
Description	Error validating script
Recovery path	Note any error codes and contact Nortel support.
Event code	48506
Severity	Major
Description	Error loading script file
Recovery path	Note any error codes and contact Nortel support.
Event code	48507
Severity	Major
Description	Failed to activate the script
Recovery path	Note any error codes and contact Nortel support.
Event code	48508
Severity	Information
Description	The Controlled Directory Number was not validated.
Recovery path	Note any error codes and contact Nortel support.
Event code	48509
Severity	Information
Description	The Controlled Directory Number type is the same.
Recovery path	Note any error codes and contact Nortel support.
Event code	48509
Severity	Information
Description	The Controlled Directory Number type is the same.

Task Flow Executor event codes (48401 to 48530)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48510
Severity	Major
Description	The call is already in the list.
Recovery path	Note any error codes and contact Nortel support.
Event code	48511
Severity	Minor
Description	Cannot remove the call. The call is not in the list.
Recovery path	Note any error codes and contact Nortel support.
Event code	48512
Severity	Minor
Description	Agent Skillset Manager response timeout
Recovery path	Note any error codes and contact Nortel support.
Event code	48513
Severity	Major
Description	Error getting call object
Recovery path	Note any error codes and contact Nortel support.
Event code	48514
Severity	Major
Description	The Agent Skillset Manager request failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48515
Severity	Major

Task Flow Executor event codes (48401 to 48530)	
Description	Invalid call state
Recovery path	Note any error codes and contact Nortel support.
Event code	48516
Severity	Critical
Description	Task Flow Executor (TFE) called a function that failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48517
Severity	Major
Description	Failed to retrieve agent
Recovery path	Note any error codes and contact Nortel support.
Event code	48518
Severity	Critical
Description	Error getting switch information
Recovery path	Note any error codes and contact Nortel support.
Event code	48524
Severity	Minor
Description	Host Data Exchange response timed out
Recovery path	Record the error number and contact Nortel support.
Event code	48525
Severity	Major
Description	Send Request failed. Send Service Request API failed.
Recovery path	Record the error number and contact Nortel support.
Event code	48526

Task Flow Executor event codes (48401 to 48530)	
Severity	Major
Description	Send Information Failed. Send Service Information API failed.
Recovery path	Record the error number and contact Nortel support.
Event code	48527
Severity	Major
Description	Third Party Application does not exist.
Recovery path	Record the error number and contact Nortel support.
Event code	48530
Severity	Major
Description	Task flow execution exception occurred during call processing.
Recovery path	Record the error number and contact Nortel support.

Voice Services Manager event codes (48800 to 48851)

Introduction

The following section lists the Voice Services Manager event codes (48800 to 48851) generated by Symposium server features.

Voice Services Manager event codes (48800 to 48851)	
Event code	48800
Severity	Critical
Description	The function was unable to allocate memory.
Recovery path	Note any error codes and contact Nortel support.
Event code	48801
Severity	Minor
Description	No active voice menu. Task Flow Executor (TFE) has issued a command that requires the call to be active in a voice menu.
Recovery path	Note any error codes and contact Nortel support.
Event code	48802
Severity	Minor
Description	Unknown call
Recovery path	Note any error codes and contact Nortel support.
Event code	48803
Severity	Minor
Description	Failed to add command to Service Request
Recovery path	Note any error codes and contact Nortel support.
Event code	48804
Severity	Minor

Voice Services Manager event codes (48800 to 48851)	
Description	The maximum number of broadcast ports was exceeded.
Recovery path	Note any error codes and contact Nortel support.
Event code	48805
Severity	Debug
Description	Failed to remove a call from service. The call to be removed from Voice Services Manager (VSM) control could not be removed from one of the VSM's internal objects. This is an internal failure in VSM.
Recovery path	Note any error codes and contact Nortel support.
Event code	48806
Severity	Major
Description	Failed to send a message
Recovery path	Ensure that all services are running. If the problem persists, note any error codes and contact Nortel support.
Event code	48807
Severity	Debug
Description	No response to send for call
Recovery path	None
Event code	48808
Severity	Debug
Description	Sending response to a client for a call. Indicates that a response is being generated to the client. This is useful in debugging to ensure Voice Services Manager (VSM) is generating the appropriate events to the client.
Recovery path	None
Event code	48809

Voice Services Manager event codes (48800 to 48851)	
Severity	Debug
Description	No completion event to send for call
Recovery path	None
Event code	48810
Severity	Debug
Description	Sending completion event for call
Recovery path	None
Event code	48811
Severity	Major
Description	The Telephony Service Manager (TSM) Application Protocol Interface (API) failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48812
Severity	Major
Description	Failed to add event to queue
Recovery path	Note any error codes and contact Nortel support.
Event code	48813
Severity	Major
Description	Configuration failure
Recovery path	Note any error codes and contact Nortel support.
Event code	48814
Severity	Major
Description	A resource could not be stored.

Voice Services Manager event codes (48800 to 48851)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48815
Severity	Major
Description	Acquire failed. Configuration of a resource failed because it could not be acquired.
Recovery path	Note any error codes and contact Nortel support.
Event code	48816
Severity	Debug
Description	Timing complete for a call
Recovery path	None
Event code	48817
Severity	Minor
Description	The timer could not be started for a call.
Recovery path	Note any error codes and contact Nortel support.
Event code	48818
Severity	Debug
Description	Timing has begun for the call.
Recovery path	None
Event code	48819
Severity	Major
Description	The command is not supported by the resource.
Recovery path	Note any error codes and contact Nortel support.
Event code	48820

Voice Services Manager event codes (48800 to 48851)	
Severity	Debug
Description	The suspension of activity is complete for the call. An operation that required suspending has resumed execution.
Recovery path	None
Event code	48821
Severity	Debug
Description	The suspension of activity has begun for a call. An operation has been suspended pending the occurrence of an event.
Recovery path	None
Event code	48822
Severity	Debug
Description	The mLockCall command was invoked for a call.
Recovery path	None
Event code	48823
Severity	Debug
Description	The mDigitCollect command was invoked for a call.
Recovery path	None
Event code	48824
Severity	Major
Description	Invalid parameters for Telephony Service Manager (TSM) function
Recovery path	Note any error codes and contact Nortel support.
Event code	48825
Severity	Debug
Description	The mAnswerCall command was invoked for a call.

Voice Services Manager event codes (48800 to 48851)	
Recovery path	None
Event code	48826
Severity	Debug
Description	The mGiveInteractive Voice Response (IVR) command was invoked for a call.
Recovery path	None
Event code	48827
Severity	Debug
Description	The mOneWayConferenceCalls command was invoked for a call.
Recovery path	None
Event code	48828
Severity	Debug
Description	The mDisconnectCall command was invoked for a call.
Recovery path	None
Event code	48829
Severity	Major
Description	Response add for reference ID failed
Recovery path	Note any error codes and contact Nortel support.
Event code	48830
Severity	Debug
Description	The mVoiceFileOpen command was invoked for a call.
Recovery path	None
Event code	48831

Voice Services Manager event codes (48800 to 48851)	
Severity	Major
Description	Failed to insert file handle
Recovery path	Note any error codes and contact Nortel support.
Event code	48832
Severity	Debug
Description	The mVoicePlay command was invoked for a call.
Recovery path	None
Event code	48833
Severity	Minor
Description	Unexpected Telephony Service Manager (TSM) response
Recovery path	Note any error codes and contact Nortel support.
Event code	48834
Severity	Minor
Description	Unknown resource
Recovery path	Note any error codes and contact Nortel support.
Event code	48835
Severity	Minor
Description	The Telephony Service Manager (TSM) event is not supported by the resource.
Recovery path	Note any error codes and contact Nortel support.
Event code	48836
Severity	Critical
Description	Failed to start the thread

Voice Services Manager event codes (48800 to 48851)	
Recovery path	Note any error codes and contact Nortel support.
Event code	48837
Severity	Critical
Description	Registration with Telephony Service Manager (TSM) failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48838
Severity	Critical
Description	Win32 object allocation failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48839
Severity	Minor
Description	Removal of resource failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	48840
Severity	Major
Description	Could not get primary ID for resource
Recovery path	Note any error codes and contact Nortel support.
Event code	48841
Severity	Debug
Description	Voice File Open response received
Recovery path	None
Event code	48842
Severity	Minor

Voice Services Manager event codes (48800 to 48851)	
Description	Resource status was not updated to database.
Recovery path	Note any error codes and contact Nortel support.
Event code	48843
Severity	Debug
Description	Voice Play response received
Recovery path	None
Event code	48844
Severity	Debug
Description	Digits Collect response received
Recovery path	None
Event code	48845
Severity	Debug
Description	Answer Call response received
Recovery path	None
Event code	48846
Severity	Debug
Description	Give Interactive Voice Response (IVR) response received
Recovery path	None
Event code	48847
Severity	Major
Description	No Resource Group for the resource unit
Recovery path	Note any error codes and contact Nortel support.
Event code	48848

Voice Services Manager event codes (48800 to 48851)	
Severity	Major
Description	Service request failure
Recovery path	Note any error codes and contact Nortel support.
Event code	48849
Severity	Major
Description	Deacquire failed
Recovery path	Note any error codes and contact Nortel support.
Event code	48850
Severity	Critical
Description	Switch information error
Recovery path	Note any error codes and contact Nortel support.
Event code	48851
Severity	Debug
Description	The mUnLockCall command was invoked for a call.
Recovery path	None

Task Flow Access event codes (49200 to 49231)

Introduction

The following section lists the Task Flow Access event codes (49200 to 49231) generated by Symposium server features.

Task Flow Access event codes (49200 to 49231)	
Event code	49200
Severity	Major
Description	Failed to allocate memory to create object
Recovery path	Note any error codes and contact Nortel support.
Event code	49201
Severity	Major
Description	Failed to insert a message into message queue
Recovery path	Note any error codes and contact Nortel support.
Event code	49202
Severity	Major
Description	Exception thrown and caught
Recovery path	Note any error codes and contact Nortel support.
Event code	49203
Severity	Major
Description	Failed to forward a service complete message
Recovery path	Note any error codes and contact Nortel support.
Event code	49204
Severity	Major
Description	Provider registration failed.

Task Flow Access event codes (49200 to 49231)	
Recovery path	Note any error codes and contact Nortel support.
Event code	49205
Severity	Major
Description	Failed in sending message
Recovery path	Note any error codes and contact Nortel support.
Event code	49206
Severity	Major
Description	Invalid data buffer
Recovery path	Note any error codes and contact Nortel support.
Event code	49207
Severity	Major
Description	Failed to create listener
Recovery path	Note any error codes and contact Nortel support.
Event code	49208
Severity	Major
Description	Failed to create connector
Recovery path	Note any error codes and contact Nortel support.
Event code	49209
Severity	Major
Description	Failed to create communication proxy
Recovery path	Note any error codes and contact Nortel support.
Event code	49210
Severity	Major

Task Flow Access event codes (49200 to 49231)	
Description	Failed to create event
Recovery path	Note any error codes and contact Nortel support.
Event code	49211
Severity	Major
Description	Failed to create event message
Recovery path	Note any error codes and contact Nortel support.
Event code	49212
Severity	Major
Description	Failed to get connect message from connector
Recovery path	Note any error codes and contact Nortel support.
Event code	49213
Severity	Major
Description	Failed to register message with listener
Recovery path	Note any error codes and contact Nortel support.
Event code	49214
Severity	Major
Description	Failed to send connect message to server
Recovery path	Note any error codes and contact Nortel support.
Event code	49215
Severity	Major
Description	Failed to forward a service request message
Recovery path	Note any error codes and contact Nortel support.
Event code	49216

Task Flow Access event codes (49200 to 49231)	
Severity	Major
Description	No return address to send status or error notification message
Recovery path	Note any error codes and contact Nortel support.
Event code	49220
Severity	Major
Description	Failed to find comproxy to send message
Recovery path	Note any error codes and contact Nortel support.
Event code	49221
Severity	Major
Description	Received an error message with certain error indication
Recovery path	Note any error codes and contact Nortel support.
Event code	49222
Severity	Major
Description	Failure in communication initialization
Recovery path	Note any error codes and contact Nortel support.
Event code	49225
Severity	Major
Description	Failed to create address object for communications
Recovery path	Note any error codes and contact Nortel support.
Event code	49226
Severity	Major
Description	Failed to send a service request message
Recovery path	Note any error codes and contact Nortel support.

Task Flow Access event codes (49200 to 49231)	
Event code	49227
Severity	Major
Description	Failed to send a service information message
Recovery path	Note any error codes and contact Nortel support.
Event code	49228
Severity	Major
Description	Failed to create RW table for pending requests
Recovery path	Note any error codes and contact Nortel support.
Event code	49229
Severity	Major
Description	Failed to create a thread
Recovery path	Note any error codes and contact Nortel support.
Event code	49230
Severity	Major
Description	Failed to forward a service information message
Recovery path	Note any error codes and contact Nortel support.
Event code	49231
Severity	Major
Description	Invalid provider ID used
Recovery path	Note any error codes and contact Nortel support.

Meridian Link Service Manager event codes (49400 to 49440)

Introduction

The following section lists the Meridian Link Service Manager event codes (49400 to 49440) generated by Symposium server features.

Meridian Link Service Manager event codes (49400 to 49440)	
Event code	49400
Severity	Major
Description	Meridian Link cannot register with Telephony Service Manager (TSM).
Recovery path	Note any error codes and contact Nortel support.
Event code	49401
Severity	Major
Description	Telephony Service Manager (TSM) function failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	49402
Severity	Minor
Description	The maximum number of applications has been reached.
Recovery path	Note any error codes and contact Nortel support.
Event code	49404
Severity	Major
Description	Failed to acquire resource
Recovery path	Note any error codes and contact Nortel support.
Event code	49405

Meridian Link Service Manager event codes (49400 to 49440)	
Severity	Major
Description	Wait failed
Recovery path	Note any error codes and contact Nortel support.
Event code	49406
Severity	Major
Description	Failed to insert task into queue
Recovery path	Note any error codes and contact Nortel support.
Event code	49407
Severity	Major
Description	The environment does not exist.
Recovery path	Note any error codes and contact Nortel support.
Event code	49408
Severity	Major
Description	No build factory
Recovery path	Note any error codes and contact Nortel support.
Event code	49409
Severity	Major
Description	Failed to insert allocated builders into build table
Recovery path	Note any error codes and contact Nortel support.
Event code	49410
Severity	Critical
Description	Failed to start thread
Recovery path	Note any error codes and contact Nortel support.

Meridian Link Service Manager event codes (49400 to 49440)	
Event code	49411
Severity	Major
Description	Failed to get local host name
Recovery path	Note any error codes and contact Nortel support.
Event code	49412
Severity	Major
Description	Failed to get local host address
Recovery path	Note any error codes and contact Nortel support.
Event code	49413
Severity	Major
Description	Invalid socket
Recovery path	Note any error codes and contact Nortel support.
Event code	49414
Severity	Major
Description	Time-out failure
Recovery path	Note any error codes and contact Nortel support.
Event code	49415
Severity	Major
Description	Send failure
Recovery path	Note any error codes and contact Nortel support.
Event code	49416
Severity	Major
Description	Network error

Meridian Link Service Manager event codes (49400 to 49440)	
Recovery path	None
Event code	49417
Severity	Major
Description	Removal of object from memory failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	49418
Severity	Critical
Description	An error occurred: exiting thread.
Recovery path	Note any error codes and contact Nortel support.
Event code	49419
Severity	Critical
Description	Null thread object found
Recovery path	Note any error codes and contact Nortel support.
Event code	49421
Severity	Major
Description	Failed to create term event
Recovery path	Note any error codes and contact Nortel support.
Event code	49422
Severity	Major
Description	The thread did not terminate itself.
Recovery path	Note any error codes and contact Nortel support.
Event code	49423
Severity	Major

Meridian Link Service Manager event codes (49400 to 49440)	
Description	Unknown Telephony Service Manager (TSM) event type
Recovery path	Note any error codes and contact Nortel support.
Event code	49424
Severity	Major
Description	No parser
Recovery path	Note any error codes and contact Nortel support.
Event code	49425
Severity	Major
Description	No application object
Recovery path	Note any error codes and contact Nortel support.
Event code	49427
Severity	Major
Description	Socket error
Recovery path	Note any error codes and contact Nortel support.
Event code	49429
Severity	Major
Description	Bad message header
Recovery path	Note any error codes and contact Nortel support.
Event code	49430
Severity	Major
Description	Connection reset
Recovery path	Note any error codes and contact Nortel support.
Event code	49431

Meridian Link Service Manager event codes (49400 to 49440)	
Severity	Major
Description	General failure
Recovery path	Note any error codes and contact Nortel support.
Event code	49432
Severity	Major
Description	Null resource
Recovery path	Note any error codes and contact Nortel support.
Event code	49433
Severity	Major
Description	Failed to insert device
Recovery path	Note any error codes and contact Nortel support.
Event code	49434
Severity	Major
Description	There are more than 50 file segments.
Recovery path	Note any error codes and contact Nortel support.
Event code	49435
Severity	Major
Description	Failed to insert parser
Recovery path	Note any error codes and contact Nortel support.
Event code	49436
Severity	Major
Description	Failed to remove from environment table
Recovery path	Note any error codes and contact Nortel support.

Meridian Link Service Manager event codes (49400 to 49440)	
Event code	49438
Severity	Major
Description	Too many clients are connected.
Recovery path	Note any error codes and contact Nortel support.
Event code	49439
Severity	Major
Description	Failed to construct ClientReceiver object
Recovery path	Note any error codes and contact Nortel support.
Event code	49440
Severity	Major
Description	Failed to insert service ID
Recovery path	Note any error codes and contact Nortel support.

Networking event codes (45143 to 50913)

Introduction

The following section lists the Networking event codes (45143 to 50913) generated by Symposium server features.

Networking event codes (45143 to 50913)	
Event code	45143
Severity	Information
Description	The feature is not purchased by the customer. The application stops gracefully.
Recovery path	None
Event code	49000
Severity	Information
Description	Network Call Processing component is initialized successfully.
Recovery path	None
Event code	49001
Severity	Major
Description	The Network Call Processing component failed to initialize.
Recovery path	Network Call Processing will try to reinitialize itself automatically. If the success message does not appear after 30 minutes, try to reboot the server. If the problem persists, contact your Nortel customer service representative.
Event code	49010
Severity	Major

Networking event codes (45143 to 50913)	
Description	The networking site is using an incompatible version of Symposium networking software. No networking call will be queued to the remote site.
Recovery path	Upgrade all networking sites to use the same Symposium release.
Event code	49011
Severity	Minor
Description	The networking site is using a different version of Symposium networking software. Networking calls may not be successfully queued to or from the networking site.
Recovery path	Upgrade all networking sites to the same Symposium release as soon as possible.
Event code	49012
Severity	Major
Description	The local site is not configured to any network.
Recovery path	Configure the site to the Network Call Center. 1 Use the Symposium client to connect to the Network Call Center. 2 Add the local site under Call Center Management-Network Administration-Sites. 3 Use the Symposium client to connect to the local site. 4 Configure networking operation in the local site according to the <i>Symposium Call Center Server Hardware Installation Guide</i>.
Event code	49013
Severity	Minor
Description	No dialable number has been configured to dial to the remote networking site.

Networking event codes (45143 to 50913)	
Recovery path	Configure the dialing plan to the networking site if it is used as a target. 1 Use the Symposium client to connect to the local site. 2 Select Call Center Management-Network Administration-Network Communication Parameters. 3 Configure the dialable number field to dial to the Network CDN of the remote site.
Event code	49014
Severity	Major
Description	The target site is being filtered forever, possibly because of package restriction at the remote site. No networking calls will be queued to the remote site.
Recovery path	Verify that the remote site is properly configured with the proper switch packages.
Event code	49015
Severity	Minor
Description	The target site is filtered using the out-of-service timer. No networking calls will be queued to the remote site during this filtering.
Recovery path	Unfilter the site immediately using the client. The filtering may be normal in the case of All Trunk Busy for an extended period of time. If the problem persists, contact your Nortel service representative.
Event code	50503
Severity	Information
Description	A Network Skillset was added to the Network Control Center database.
Recovery path	None
Event code	50504

Networking event codes (45143 to 50913)	
Severity	Information
Description	A Network Skillset was deleted from the Network Control Center database.
Recovery path	None
Event code	50505
Severity	Information
Description	A Network Skillset in the Network Control Center database was modified.
Recovery path	None
Event code	50506
Severity	Information
Description	A Network Site was added to the Network Control Center database.
Recovery path	None
Event code	50507
Severity	Information
Description	A Network Site was deleted from the Network Control Center database.
Recovery path	None
Event code	50508
Severity	Information
Description	A Network Site in the Network Control Center database has been modified.
Recovery path	None
Event code	50509
Severity	Information

Networking event codes (45143 to 50913)	
Description	The Ranking table was loaded into the Network Control Center database.
Recovery path	None
Event code	50510
Severity	Information
Description	A Ranking assignment was added to the Network Control Center database.
Recovery path	None
Event code	50511
Severity	Information
Description	A Ranking assignment was deleted from the Network Control Center database.
Recovery path	None
Event code	50512
Severity	Information
Description	A Ranking assignment in the Network Control Center database was modified.
Recovery path	None
Event code	50513
Severity	Information
Description	A Ranking assignment data table was loaded into the Network Control Center database.
Recovery path	None
Event code	50902
Severity	Information

Networking event codes (45143 to 50913)	
Description	Remote application table
Recovery path	None
Event code	50904
Severity	Information
Description	A Network Skillset was deleted.
Recovery path	None
Event code	50905
Severity	Information
Description	A Network Skillset was modified.
Recovery path	None
Event code	50906
Severity	Information
Description	A Network Site was added.
Recovery path	None
Event code	50907
Severity	Information
Description	A Network Site was deleted.
Recovery path	None
Event code	50908
Severity	Information
Description	Some Network Site parameters were modified.
Recovery path	None
Event code	50909

Networking event codes (45143 to 50913)	
Severity	Information
Description	A Ranking table was loaded into the database.
Recovery path	None
Event code	50910
Severity	Information
Description	A Dialing plan was loaded into the database.
Recovery path	None
Event code	50911
Severity	Information
Description	The Network configuration was modified.
Recovery path	None
Event code	50912
Severity	Information
Description	The Network Skillset status was modified.
Recovery path	None
Event code	50913
Severity	Information
Description	The Network Connection status was modified.
Recovery path	None

Database Full Notifier event codes (51100 to 51110)

Introduction

The following section lists the Database Full Notifier event codes (51100 to 51110) generated by Symposium server features.

Database Full Notifier event codes (51100 to 51110)	
Event code	51100
Severity	Critical
Description	Allocate Database Context Structure failed
Recovery path	Note any error codes and contact Nortel support.
Event code	51101
Severity	Critical
Description	Set CS-Library Error Handler failed
Recovery path	Note any error codes and contact Nortel support
Event code	51102
Severity	Critical
Description	Unable to set the server version
Recovery path	Note any error codes and contact Nortel support.
Event code	51103
Severity	Critical
Description	The Win32 Application Protocol Interface (API) failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	51104
Severity	Critical
Description	Unable to set Open Server Error Logfile

Database Full Notifier event codes (51100 to 51110)	
Recovery path	Note any error codes and contact Nortel support.
Event code	51105
Severity	Critical
Description	Set Error Handler for Open Server command failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	51106
Severity	Critical
Description	Open Server Initialization failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	51107
Severity	Critical
Description	Set Event Handler for Open Server command failed.
Recovery path	Note any error codes and contact Nortel support.
Event code	51108
Severity	Major
Description	Failed to send database full message to Historical Data Manager due to timeout
Recovery path	Note any error codes and contact Nortel support.
Event code	51109
Severity	Major
Description	Failed to send database full message to Historical Data Manager
Recovery path	Note any error codes and contact Nortel support.
Event code	51110

Database Full Notifier event codes (51100 to 51110)	
Severity	Critical
Description	A fatal error occurred while running the Open Server command.
Recovery path	Note any error codes and contact Nortel support.

Event Broker Fault Management event codes (47112 to 51110)

Introduction

The following section lists the Event Broker Fault Management event codes (47112 to 51110) generated by Symposium server features.

Event Broker Fault Management event code (47112 to 51110)	
Event code	47112
Severity	Critical
Description	A fatal error occurred while running the Open Server command.
Recovery path	Note any error codes and contact Nortel support.
Event code	51110
Severity	Minor
Description	The message is discarded since it arrived out-of-sequence.
Recovery path	Note any error codes and contact Nortel support.

Appendix C

Nortel Symposium Call Center Server return codes

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Overview

Introduction

This appendix contains a list of the return codes generated by Nortel Symposium Call Center Server features.

Return codes provide additional information about events in the event log. These codes can be used to identify a problem with the Symposium server.

The following information is provided for the return codes:

Return code	The number used to identify the return code.
Description	A brief description of the return code.
Recovery path	The action required to solve the problem. (A recovery path is not provided for all return codes.)

Operating System Abstraction return codes (40201 to 40299)

Introduction

The following section lists the Operating System Abstraction return codes (40201 to 40299) generated by Symposium server features.

Operating System Abstraction return codes (40201 to 40299)	
Return code	40201
Description	An unexpected error occurred.
Return code	40202
Description	A function timed out.
Return code	40203
Description	A bad parameter was passed into the service.
Return code	40204
Description	There is insufficient free memory.
Return code	40205
Description	There is insufficient free space on the volume.
Return code	40206
Description	An invalid priority class or level was entered.
Return code	40207
Description	That function is not yet implemented.
Return code	40210
Description	Bad process executable
Return code	40211
Description	The process executable was not found.

Operating System Abstraction return codes (40201 to 40299)	
Return code	40212
Description	The maximum number of processes was reached.
Return code	40213
Description	Invalid process handle
Return code	40214
Description	The process has not terminated.
Return code	40217
Description	The maximum number of threads has been reached.
Return code	40218
Description	Invalid thread handle
Return code	40219
Description	The thread is not a child of the caller.
Return code	40219
Description	The thread is not a child of the caller.
Return code	4-220
Description	The thread has not terminated.
Return code	40223
Description	The shared memory name is already in use.
Return code	40224
Description	There was no shared memory found with the specified name.
Return code	40225
Description	Invalid base address
Return code	40228

Operating System Abstraction return codes (40201 to 40299)	
Description	The semaphore name is already in use.
Return code	40229
Description	The maximum number of semaphores has been reached.
Return code	40230
Description	The requested semaphore was not found.
Return code	40231
Description	The owner died without releasing the semaphore.
Return code	40232
Description	There were too many semaphores opened.
Return code	40233
Description	Releasing semaphore not owned
Return code	40234
Description	The semaphore handle is invalid.
Return code	40237
Description	The event name is already in use.
Return code	40238
Description	There was no event found with the specified name.
Return code	40239
Description	The event handle is invalid.
Return code	40242
Description	The timer handle is invalid.
Return code	40243
Description	There was no pipe found with the name specified in create.

Operating System Abstraction return codes (40201 to 40299)	
Return code	40244
Description	The client has not yet connected to the pipe.
Return code	40245
Description	The client called NBosa_ePipeConnect.
Return code	40246
Description	The client has closed the pipe.
Return code	40247
Description	The pipe handle is invalid.
Return code	40248
Description	There was no pipe found with name specified in open.
Return code	40249
Description	The maximum number of pipes has been reached.
Return code	40250
Description	The requested pipe access is not allowed.
Return code	40251
Description	The pipe name given is invalid in create.
Return code	40254
Description	Message delivery is in progress.
Return code	40255
Description	Invalid endpoint address
Return code	40256
Description	Invalid buffer
Return code	40257

Operating System Abstraction return codes (40201 to 40299)	
Description	Invalid endpoint
Return code	40258
Description	Failed to initialize transport object
Return code	40259
Description	The endpoint address is already in use.
Return code	40260
Description	The buffer is in use by message queue facility.
Return code	40261
Description	You are deleting a message without replying to it.
Return code	40262
Description	Cannot talk to Name Service
Return code	40263
Description	The name is already in use.
Return code	40264
Description	The name was not found.
Return code	40265
Description	No message is available.
Return code	40268
Description	The destination was not found.
Return code	40269
Description	The destination is full.
Return code	40270
Description	Transport failure

Operating System Abstraction return codes (40201 to 40299)	
Return code	40271
Description	There was no response from the destination.
Return code	40286
Description	The file system device is not responding.
Return code	40287
Description	No such file exists.
Return code	40288
Description	The file path specified was not found.
Return code	40289
Description	The shared file access is invalid.
Return code	40290
Description	File access security violation
Return code	40291
Description	The file name is already in use.
Return code	40292
Description	Seek to before file start
Return code	40293
Description	You are attempting to delete a non-empty directory.
Return code	40294
Description	The file handle is invalid.
Return code	40295
Description	The file range is locked by someone else.
Return code	40296

Operating System Abstraction return codes (40201 to 40299)	
Description	The file source path is invalid.
Return code	40297
Description	The file destination path is invalid.
Return code	40298
Description	Start past end of file
Return code	40299
Description	The unlock range must match the locked file range.

Fault Manager return codes (40500 to 40577)

Introduction

The following section lists the Fault Manager return codes (40500 to 40577) generated by Symposium server features.

Fault Manager return codes (40500 to 40577)	
Return code	40500
Description	This code is used only in the test drivers, and is used to indicate that an error has occurred. More information about the error is provided in the test driver window.
Recovery path	See the test driver window for more information.
Return code	40506
Description	An invalid user session ID was received.
Return code	40507
Description	There was an error communicating with the Fault Management Server.
Recovery path	Ensure that the Fault Management server is running and that the network connection to the server is functional.
Return code	40508
Description	There was an error allocating memory on the Client system.
Recovery path	Ensure that there is enough memory available on the system.
Return code	40509
Description	There was an error allocating memory on the server.
Recovery path	Ensure that there is enough memory available on the system.
Return code	40510
Description	A software error has occurred.
Return code	40514

Fault Manager return codes (40500 to 40577)	
Description	The requested operation is not supported.
Return code	40515
Description	The environment variable provided for set environment is invalid.
Recovery path	Check the connectivity settings in the system configuration.
Return code	40518
Description	There was an error opening the file created to transfer the Event log from the server to a client.
Recovery path	Check the memory and available disk space on the Symposium Server and try the command again.
Return code	40519
Description	There was an error closing the file created to transfer the Event log from the server to a client.
Recovery path	Check the memory and available disk space on the Symposium Server and try the command again.
Return code	40520
Description	There was an error deleting the file created to transfer the Event log from the server to a client.
Recovery path	This may result in a temporary file not being deleted from the Nortel\Bin directory on the Symposium server. Look for a temporary file that was created at the time the event was reported and delete the file manually.
Return code	40521
Description	There was an error reading a temporary file created for a fault management-related operation.
Return code	40522
Description	There was an error writing to a temporary file created for a fault management-related operation.

Fault Manager return codes (40500 to 40577)	
Return code	40523
Description	There was an error creating a temporary file for a fault management-related operation.
Recovery path	Ensure that there is enough memory and disk space available on the client.
Return code	40524
Description	There was an error deleting a temporary file created for a fault management-related operation.
Recovery path	Delete the file manually.
Return code	40525
Description	There was an error closing a temporary file created for a fault management-related operation.
Return code	40526
Description	An invalid entry ID was specified for the operation.
Return code	40527
Description	An invalid Object Instance Type was specified for the operation.
Return code	40528
Description	An invalid Object Key was specified for the operation.
Return code	40529
Description	An invalid table type was specified for the operation.
Return code	40530
Description	Failed to register with the Fault Manager server for the Event Monitoring Service.
Return code	40531

Fault Manager return codes (40500 to 40577)	
Description	This application has already registered with the Fault Manager for the event monitoring service.
Return code	40532
Description	This application is not registered for event monitoring.
Return code	40533
Description	An error was encountered when transferring the Windows NT Event log.
Return code	40534
Description	An error was encountered when clearing the Windows NT Event log.
Return code	40535
Description	An error was encountered when closing the Windows NT Event log.
Return code	40536
Description	An error was encountered when opening the Windows NT Event log.
Return code	40537
Description	An error was encountered when trying to obtain the Windows NT Event log size.
Return code	40538
Description	The size of a record read from the Windows NT Event log is invalid.
Return code	40539
Description	An error was encountered when reading the Windows NT Event log.
Return code	40540
Description	An error was encountered when writing to the Windows NT Event log.
Return code	40541

Fault Manager return codes (40500 to 40577)	
Description	An error was encountered when installing Inserts to the Windows NT Event log.
Return code	40542
Description	An error was encountered when reading the Alarms List.
Return code	40544
Description	An error was encountered when adding an alarm to the Alarms List.
Return code	40545
Description	There was a software execution error when accessing the Alarms List.
Return code	40546
Description	The specified list is empty.
Return code	40547
Description	The end of the specified list has been encountered.
Return code	40548
Description	There was a software execution error when reading the Forward list.
Return code	40549
Description	An error was encountered when reading the Forward List.
Return code	40550
Description	An error was encountered when adding an entry to the Forward List.
Return code	40551
Description	There was an error creating a thread to forward an event to the client.
Return code	40552
Description	There was an error initializing the database environment.
Return code	40553

Fault Manager return codes (40500 to 40577)	
Description	There was an error freeing the database environment.
Return code	40554
Description	There was an error allocating memory for the database connection.
Return code	40554
Description	There was an error allocating memory for the database connection.
Return code	40555
Description	There was an error connecting to the database.
Return code	40556
Description	There was an error disconnecting from the database.
Return code	40557
Description	There was an error executing the database command.
Return code	40558
Description	There was an error updating the database.
Return code	40559
Description	There was an error reading from the database.
Return code	40560
Description	There was an error freeing the database handle.
Return code	40561
Description	There was an error freeing the database connection.
Return code	40562
Description	There was an error allocating memory for the database statement handle.
Return code	40563

Fault Manager return codes (40500 to 40577)	
Description	There was an error creating a Universally Unique ID (UUID).
Return code	40564
Description	There was an error creating MUTEX.
Return code	40565
Description	There was an error registering with the Windows NT Event log.
Return code	40566
Description	There was an error registering a protocol sequence.
Return code	40567
Description	There was an error getting the server Remote Procedure Call (RPC) binding handle.
Return code	40568
Description	There was an error registering with an endpoint map.
Return code	40569
Description	There was an error registering a Remote Procedure Call (RPC) interface.
Return code	40570
Description	There was an error creating the fault manager Audit Thread.
Return code	40571
Description	There was an error listening for a Remote Procedure Call (RPC) request.
Return code	40572
Description	There was an error waiting for a Remote Procedure Call (RPC) request.
Return code	40573

Fault Manager return codes (40500 to 40577)	
Description	A Remote Procedure Call (RPC) error was encountered while shutting down.
Return code	40574
Description	There was an error setting up the database for concurrent access.
Return code	40577
Description	The Fault Server is having problems reading, writing, or accessing the Event Throttling configuration file.

System Manager return codes (0 to 40653)

Introduction

The following section lists the System Manager return codes (0 to 40653) generated by Symposium server features.

System Manager return codes (0 to 40653)	
Return code	0
Description	The requested operation was successful.
Return code	40602
Description	An operation was requested on a service that does not exist.
Return code	40603
Description	An operation was requested on a service on a machine that does not exist or is down. The machine name specified was not passed correctly into the service.
Return code	40604
Description	One of the parameters passed to the Application Protocol Interface (API) is invalid.
Return code	40605
Description	An invalid string corresponding to the machine name parameter was passed into the Application Protocol Interface (API).
Return code	40606
Description	An operation was requested on a service that was not active.
Return code	40607
Description	An invalid control code was passed in the NBsm_controlService Application Protocol Interface (API).
Return code	40608
Description	An invalid address was passed into the System Manager Application Protocol Interface (API).

System Manager return codes (0 to 40653)	
Return code	40609
Description	The service did not complete the specified operation in the required amount of time. This may be because the service did not call the NBsm_SetServiceStatus API often enough. The service may be waiting for another operation to complete.
Return code	40610
Description	An invalid handle was passed into the System Manager Application Protocol Interface (API).
Return code	40611
Description	The file was not found. This usually refers to the executable file associated with the service.
Recovery path	Check that the path name specified in the NBsm_CreateService Application Protocol Interface (API) call exists. This return code is context sensitive. That is, if it is returned from a registry Application Protocol Interface (API) call, it would mean the registry key is not found, or the registry value is not found.
Return code	40612
Description	An invalid key was passed into the System Manager Application Protocol Interface (API).
Return code	40613
Description	The requested operation was denied. You cannot attempt to remove a registry key that has subkeys.
Return code	40614
Description	The requested operation cannot be completed due to insufficient memory resources. This may occur when more than 7 Mbytes of memory is written to the Windows NT Registry.
Return code	40615

System Manager return codes (0 to 40653)	
Description	The retrieval operation requested requires more memory than is available to get the data.
Return code	40616
Description	One of the parameters referenced an illegal address.
Return code	40617
Description	The service cannot be started because the specified binary executable path does not exist.
Return code	40618
Description	The service cannot be created because the specified display name already exists.
Return code	40619
Description	The service you are trying to create already exists.
Return code	40620
Description	The specified service account is invalid.
Return code	40621
Description	The service cannot be created because the dependency list is circular.
Return code	40622
Description	No attempt was made to start the service since the machine was booted.
Return code	40623
Description	You are trying to delete a running service that is already marked for deletion.
Return code	40624
Description	The specified service is already running.
Return code	40625

System Manager return codes (0 to 40653)	
Description	The service is not accepting the requested control code.
Return code	40626
Description	The communications pipe is busy.
Return code	40627
Description	No data was available.
Return code	40628
Description	The service could not be started because a dependent service does not exist or has been deleted.
Return code	40629
Description	The service had an exception while handling a control request.
Return code	40630
Description	A null reference pointer was passed in the parameters into the Application Protocol Interface (API).
Return code	40650
Description	A run-time error occurred.
Return code	40651
Description	This code is returned when the service is requested to simulate problems.
Return code	40652
Description	The System Manager or daemon failed the sanity poll.
Return code	40653
Description	The System Manager killed the service.

Configuration return codes (40700 to 40799)

Introduction

The following section lists the Configuration return codes (40700 to 40799) generated by Symposium server features.

Configuration return codes (40700 to 40799)	
Return code	40700
Description	An error has occurred in the configuration service.
Return code	40701
Description	A bind to Symposium server error has occurred.
Return code	40702
Description	Already bound to server
Return code	40703
Description	An unbind from server error has occurred.
Return code	40704
Description	Not bound to server yet
Return code	40705
Description	Failed to connect to the database
Return code	40706
Description	Configuration server shutdown request
Return code	40707
Description	No record was found.
Return code	40708
Description	Invalid Session ID
Return code	40710

Configuration return codes (40700 to 40799)	
Description	Session validation failed
Return code	40711
Description	Bad communication port failure
Return code	40712
Description	Failed to read database
Return code	40713
Description	Failed to write database
Return code	40714
Description	Failed to add service record
Return code	40715
Description	Failed to read service record
Return code	40716
Description	Failed to modify service record
Return code	40717
Description	Failed to delete service record
Return code	40718
Description	Failed to add feature record
Return code	40719
Description	Failed to read feature record
Return code	40720
Description	Failed to modify feature record
Return code	40721
Description	Failed to delete feature record

Configuration return codes (40700 to 40799)	
Return code	40722
Description	Failed to add resource parameter record
Return code	40723
Description	Failed to read resource parameter record
Return code	40724
Description	Failed to modify resource parameter record
Return code	40725
Description	Failed to delete resource parameter record
Return code	40726
Description	Failed to add customer record
Return code	40727
Description	Failed to read customer record
Return code	40728
Description	Failed to modify customer record
Return code	40729
Description	Failed to delete customer record
Return code	40730
Description	Failed to add tenant record
Return code	40731
Description	Failed to read tenant record
Return code	40732
Description	Failed to modify tenant record
Return code	40733

Configuration return codes (40700 to 40799)	
Description	Failed to delete tenant record
Return code	40734
Description	Failed to add blue record
Return code	40735
Description	Failed to read blue record
Return code	40736
Description	Failed to modify blue record
Return code	40737
Description	Failed to delete blue record
Return code	40738
Description	Failed to add hardware record
Return code	40739
Description	Failed to read hardware record
Return code	40740
Description	Failed to modify hardware record
Return code	40741
Description	Failed to delete hardware record
Return code	40742
Description	Failed to set communication port
Return code	40743
Description	Failed to read host file
Return code	40744
Description	Failed to modify host file

Configuration return codes (40700 to 40799)	
Return code	40745
Description	Failed to obtain time
Return code	40746
Description	Failed to obtain performance data
Return code	40747
Description	Failed to get system information
Return code	40748
Description	A shutdown was requested.
Return code	40749
Description	A forced shutdown (no cleanup) was requested.
Return code	40750
Description	This is a debug return code. It is used only during testing by the Symposium System Manager.
Return code	40751
Description	A serial port change broadcast was requested.
Return code	40752
Description	Failed to connect to Security Server
Return code	40753
Description	The disk threshold has exceeded 95%.
Return code	40754
Description	There was a Remote Procedure Call (RPC) binding error.
Return code	40755
Description	Wrong number of parameters

Configuration return codes (40700 to 40799)	
Return code	40756
Description	The Remote Procedure Call (RPC) Server is not reachable.
Return code	40757
Description	Unable to retrieve switch configuration information
Return code	40758
Description	Unable to save switch configuration information
Return code	40759
Description	Unable to modify switch configuration information
Return code	40799
Description	Configuration debug value

Security Service return codes (40800 to 40876)

Introduction

The following section lists the Security Service return codes (40800 to 40876) generated by Symposium server features.

Security Service return codes (40800 to 40876)	
Return code	40800
Description	Security management Application Protocol Interface (API) signature or parameters error
Return code	40801
Description	Security management Application Protocol Interface (API) set environment error
Return code	40802
Description	The Security management service is not network reachable.
Return code	40808
Description	There is no System Manager PC user logged in.
Return code	40809
Description	There is already a System Manager PC user logged in.
Return code	40811
Description	The System Manager PC user was not found.
Return code	40817
Description	System Manager session valid error
Return code	40818
Description	System Manager session keep alive error
Return code	40819
Description	System Manager get sessions list error

Security Service return codes (40800 to 40876)	
Return code	40822
Description	System Manager session validate error
Return code	40871
Description	Record not found in database
Recovery path	This return code may not indicate an error condition. Check the database. If necessary, change the access method parameters.
Return code	40872
Description	Duplicate record found in the database
Recovery path	This return code may not indicate an error condition. Check the database. If necessary, change the access method parameters.
Return code	40873
Description	There is a user attached to the group.
Recovery path	An attempt was made to delete a group that had users in it. Detach the users from the group and try again.
Return code	40874
Description	Owner Access Bit setting was set.
Recovery path	An action that requires Owner Access Bit not to be set was attempted. Change the setting and try again.
Return code	40875
Description	Owner Access Bit setting was not set.
Recovery path	An action that requires Owner Access Bit set was attempted. Change the setting and try again.
Return code	40876
Description	No capabilities were returned.

Security Service return codes (40800 to 40876)	
Recovery path	An attempt to get session capabilities, or another action that involves getting session capabilities, was made, but neither was returned. Ensure that the client has the appropriate access privileges.

Support Access return codes (41116 to 41150)

Introduction

The following section lists the Support Access return codes (41116 to 41150) generated by Symposium server features.

Support Access return codes (41116 to 41150)	
Return code	41116
Description	Unable to close the communications port
Recovery path	Ensure that the communications port is not in use.
Return code	41150
Description	An invalid digit was specified.
Recovery path	Check the parameter to ensure that a valid, unsigned integer is specified.

Database return codes (41401 to 41419)

Introduction

The following section lists the Database return codes (41401 to 41419) generated by Symposium server features.

Database return codes (41401 to 41419)	
Return code	41401
Description	Unable to allocate a database statement
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41402
Description	Unable to bind column
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41403
Description	Unable to fetch data
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41404
Description	Unable to allocate connection handle
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41406
Description	Unable to allocate database environment
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41407
Description	Unable to execute SQL statement
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41408

Database return codes (41401 to 41419)	
Description	Unable to commit or roll back transaction
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41409
Description	Unable to set connection option
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41412
Description	Could not count number of rows affected
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41416
Description	Logical user not found
Recovery path	Ensure that you are running the proper software versions. Make sure no users have been manually deleted from the database.
Return code	41417
Description	Unable to free ODBC statement
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41418
Description	Unable to disconnect from the database
Recovery path	Refer to the Log files to determine the cause of the error.
Return code	41419
Description	Unable to free the ODBC connection handle
Recovery path	Refer to the Log files to determine the cause of the error.

Backup return code (41872)

Introduction This is the Backup return code (41872) generated by Symposium server features.

Backup return code (41872)	
Return code	41872
Description	This is a return code for Backup Service. It is sent when a message is received from the Service Manager to simulate a problem.

Name Server return codes (42001 to 42085)

Introduction

The following section lists the Name Server return codes (42001 to 42085) generated by Symposium server features.

Name Server return codes (42001 to 42085)	
Return code	42001
Description	There was an error creating the socket.
Return code	42002
Description	There was a binding error.
Return code	42003
Description	There was an error connecting.
Return code	42004
Description	There was an error closing a socket.
Return code	42005
Description	There was an error determining the local host name.
Return code	42006
Description	There was an error determining the local address.
Return code	42007
Description	There was an error on WSASStartup.
Return code	42008
Description	Bad transport version
Return code	420009
Description	There was a shutdown error.
Return code	42010

Name Server return codes (42001 to 42085)	
Description	There was an error starting up the connection manager.
Return code	42031
Description	Cannot read the local site information
Return code	42032
Description	There was an error reading the Name Service table.
Return code	42033
Description	There was an error deleting from the Name Service table.
Return code	42034
Description	There was an error writing to the address table.
Return code	42035
Description	There was an error writing to the Name Service table.
Return code	42036
Description	An invalid command message was received.
Return code	42037
Description	There is no more room in the card table.
Return code	42038
Description	There was an error establishing the local card.
Return code	42039
Description	Failed to allocate ODBC Environment
Return code	42040
Description	Failed to allocate ODBC Connection
Return code	42041
Description	Failed to allocate ODBC Statement

Name Server return codes (42001 to 42085)	
Return code	42042
Description	Failed to bind a column (to read) to the statement handle
Return code	42043
Description	Failed to bind a column (to write) to the statement handle
Return code	42044
Description	Failed to unbind a column or parameter from the statement handle
Return code	42045
Description	Failed to invoke required ODBC options
Return code	4246
Description	Failed to get data row
Return code	42047
Description	Failed to obtain a valid user ID and password to access a database on this server
Return code	42048
Description	Failed to make an ODBC Database connection
Return code	42049
Description	The version of sock address or flags does not match that stored in the database.
Return code	42050
Description	The initial separator “\\” was not found at the start of an address name.
Return code	42051
Description	A site name was not found at the start of an address name string.
Return code	42052

Name Server return codes (42001 to 42085)	
Description	A channel name was not found after a site name in an address name string.
Return code	42053
Description	A card name was not found after a channel name in an address name string.
Return code	42054
Description	Failed to commit the database operation
Return code	42055
Description	Failed to roll back the database operation
Return code	42056
Description	There was an error starting the Name Service replicator thread.
Return code	42057
Description	There was an error shutting down the Name Service replicator thread.
Return code	42058
Description	The Name Service replicator thread wait on Windows NT events failed.
Return code	42059
Description	The application thread wait on Windows NT events failed.
Return code	42061
Description	There was an error connecting to the database.
Return code	42062
Description	There was an error writing to the Name Service settings table.
Return code	42063
Description	There was an error deleting from the Name Service settings table.

Name Server return codes (42001 to 42085)	
Return code	42064
Description	There was an error deleting from the card table.
Return code	42065
Description	There was an error writing to the card table.
Return code	42066
Description	The Receive portion of a request timed out.
Return code	42067
Description	The Receive portion of a request had to be terminated.
Return code	42068
Description	There was an error connecting to the registry.
Return code	42069
Description	There was an error opening the secondary key.
Return code	42070
Description	There was an error creating the registry key.
Return code	42071
Description	There was an error deleting the registry key.
Return code	42072
Description	There was an error deleting a registry value.
Return code	42073
Description	There was an error querying the value.
Return code	42074
Description	Type of value in the registry is invalid.
Return code	42075

Name Server return codes (42001 to 42085)	
Description	The Name Service replicator cannot find the local site table.
Return code	42076
Description	Name Service replicator wakeup failed.
Return code	42077
Description	The connection is busy with another operation.
Return code	42078
Description	Setting option on connection failed.
Return code	42079
Description	There was an error setting a value.
Return code	42080
Description	Unable to convert Multibyte Characters (MBCs) to UNICODE
Return code	42081
Description	Invalid Client Local Area Network (CLAN) address
Return code	42082
Description	Invalid Embedded Local Area Network (ELAN) address
Return code	42083
Description	Invalid site name
Return code	42085
Description	Invalid initialization argument

Glossary

A

AC

See alternating current.

ACD call

An automatic call distribution (ACD) call is a call that enters the system through one or more central lines, and then is presented to agents within the call center according to their skillsets and the services required by the caller.

adapter

Hardware required to support a particular device. For example, network adapters provide a port for the network wire. Adapters can be expansion boards or part of the computer's main circuitry.

administrator

A user who is responsible for maintaining the Nortel Symposium Call Center Server.

agent

A user who is responsible for accepting incoming calls.

agent ID

An identification number assigned to a particular agent. The agent uses this number when logging in. The agent ID is not associated with any particular telephone set.

AIP

Advanced I/O Processor

alternating current

AC electrical power, the raw power supplied by all utility companies, must be converted to direct current (DC) for use in computer systems.

American National Standards Institute

A voluntary organization (which includes all the large computer companies) that sets standards for the computer industry.

American Standard Code for Information Interchange

A code for representing English text as numbers, with each character assigned a number from 0 to 127. For example, the ASCII code for uppercase P is 80. ASCII code makes it possible to transfer data from one computer to another.

analog

The type of signal used by most telephone connections. A modem converts a digital (computer) signal to analog (and vice versa) so that the signal can travel through telephone lines.

ANSI

See American National Standards Institute.

API

See application program interface.

APIC

Advanced Peripheral Interrupt Controller

application

When used in reference to the Nortel Symposium Call Center Server, applications are used for the purposes of reporting. Information is collected and reported for applications to give call center managers specific details about call types, callers, or conditions. The master script, and each primary script, has an application with the same name. Applications are created automatically when the master script is activated for the master script and for every primary script that it references.

This term is also used to refer to a program that is run to do various types of work on a computer. Although applications carry out many functions, the user can see (and use) only the graphical user interface (GUI). Common applications include word processors, databases, and multimedia software.

application program interface

A set of routines, protocols, and tools that programmers use to develop software applications. APIs simplify the development process by providing commonly used programming procedures.

Application Specific Integrated Controller

A chip designed for a specific application. ASICs, created by connecting existing circuit building blocks in new ways, cost less, and are much easier to produce than designing a brand new chip.

ASCII

See American Standard Code for Information Interchange.

ASIC

See Application Specific Integrated Controller.

associated supervisor

A supervisor who sees the data related to an agent. *See also* primary supervisor.

Asynchronous Transfer Mode

A network technology that uses start bits and stop bits (which identify a piece of digital code) to facilitate data transfer. ATM equipment can transmit video, audio, and computer data over the same network, ensuring that no single type of data dominates the line.

ATM

See Asynchronous Transfer Mode.

average required bandwidth

The amount of bandwidth that the Capacity Assessment Tool analysis determines is required for the Nortel Symposium Call Center server recommended configuration. *See also* bandwidth.

B

bandwidth

The amount of data that the network can transmit, usually expressed in megabytes (Mbytes) per second. *See also* average required bandwidth.

baseboard

See motherboard.

Basic Input/Output System

Flash ROM based code that runs the Power-On Self-Test (POST) and bootstrap loader. BIOS contains low-level access routines for hardware that may be called from DOS.

baud rate

Refers to signaling rate. The baud rate indicates the number of bits per second (bps) that are transmitted. For example, a baud rate of 300 means that 300 bits are transmitted each second (300 bps).

BIOS

See Basic Input/Output System.

bits

Short for binary digit, the smallest unit of information on a machine. A single bit can hold only one of two values: 0 or 1. A byte is composed of eight consecutive bits.

bits per second

The standard measure of data transmission speeds. Assuming asynchronous communication, which requires 10 bits per character, a baud rate of 300 bps translates to 30 characters per second (cps).

bps

See bits per second.

bridge

A protocol-independent device that connects two LANs or two segments of the same LAN. Bridges are faster (and less versatile) than routers because they forward packets without analyzing and rerouting messages.

bus

A collection of wires that connects the microprocessor and main memory to internal computer components. All buses consist of an address bus that transfers data and a data bus that transfers information about where the data should go.

In a network, a bus (also called the backbone) is a main cable that connects all devices on a LAN.

byte

Abbreviation for binary term, a unit of storage capable of holding a single character. On almost all modern computers, a byte is equal to eight bits. Large amounts of memory are

indicated in terms of kilobytes (1024 bytes), megabytes (1 048 576 bytes), and gigabytes (1 073 741 824 bytes).

C

cache

A read cache attempts to anticipate and store required data in memory so that it can be retrieved quickly (electronically, rather than mechanically). A write cache electronically holds the data you want to write to disk and slowly writes it to the disk (mechanically).

card

A thin, rectangular plate on which chips and other electronic components are placed. Examples of cards include motherboards, expansion boards, daughterboards, controller boards, Network Interface cards, and video adapters.

cathode-ray tube

The technology used in most televisions and desktop computer display screens. A CRT works by moving a ray of electrons back and forth across the back of the screen, illuminating phosphor dots on the inside of the glass tube.

CDN

See Controlled Directory Number.

CD-ROM

A type of optical disk capable of storing large amounts of data (up to 1Gbyte), although the most common size is 630 Mbyte. A single CD-ROM has the storage capacity of 700 floppy disks and is particularly well-suited to information that requires large storage capacity.

central processing unit

Sometimes referred to as the microprocessor, the CPU more often describes the system unit, the box that holds a PC's essential components (except keyboard and monitor).

chip

Typically, a chip refers to the small flake of silicon crystal that makes up the microprocessor or some other type of controller.

CLAN

customer local area network

client

The client part of a client-server architecture. Typically, a client is an application that runs on a personal computer or workstation and relies on a server to perform some operations. For example, an E-mail client is an application that enables you to send and receive E-mail.

CMOS

See Complementary Metal-Oxide Semiconductor.

COM or COMM

Communications port. Usually refers to the Logical Device name of PC serial ports as defined by DOS.

Complementary Metal-Oxide Semiconductor

A commonly used type of semiconductor well-suited for use in battery-powered devices, such as portable computers, because they require less power than NMOS.

Controlled Directory Number

Allow incoming calls to be queued into the switch, and messages regarding these calls to be sent to Nortel Symposium Call Center Server.

controller board

A special type of expansion board that contains a controller for a peripheral device. When you attach new devices, such as a disk drive, to a computer, often a controller board must also be added.

CPU

See central processing unit.

crash

A serious computer failure during which the computer itself stops working or a program closes unexpectedly. A crash indicates a hardware malfunction or a serious software bug.

CRT

See cathode-ray tube.

D

DAT

See digital audio tape.

data types

The types of data that you can use to create variables.

daughterboard

Usually used as a synonym for an expansion board, a daughterboard is any printed circuit board that directly or indirectly to a motherboard.

DBMS

Database Management System

DC

See direct current.

DDS

See digital data storage.

desktop users

Users with the desktop assigned to them can access the system through a computer.

DHCP

See dynamic host configuration protocol.

digital audio tape

A type of magnetic tape that uses a helical scan scheme to record data. DDS (digital data storage) is the most common format for DAT cartridges.

digital data storage

DDS is the industry standard for 4mm helical scan digital audio tape (DAT) cartridges. *See also* DAT.

digital linear tape

A high-capacity 1/2-inch streaming tape cartridge format.

digital signal processor

A special type of coprocessor that manipulates analog data, such as sound or photographs, that has been converted to digital form.

DIMM

The protective packaging for microprocessor chips that provides a safe and convenient means of installing and removing the chip.

DIP

A type of protective packaging for silicon memory chips that provides a safe and convenient means of installing and removing the chip.

DIP switch

A series of tiny switches built into circuit boards that enables you to configure a circuit board for a particular type of computer or application. DIP switches are always toggle switches, which means they have two possible positions: on or off (or 1 or 0).

direct current

DC, the electrical power used by computers, comes from a single source (such as a battery) which provides a single voltage that stays at a constant level. AC, the power provided by utility companies, must be converted to DC before it can be used in computer systems.

direct memory access

DMA speeds up system performance by moving blocks of memory around inside the computer (typically between I/O devices and memory). This process enables the microprocessor to spend its time performing other functions.

directory number

The number that identifies a telephone set on a PBX or in the public network. The Directory number could be a local PBX extension (local DN), a public network telephone number, or an automatic call distribution directory number (ACD-DN)—the pilot or group number for an ACD queue.

Disk Operating System

Originally developed by Microsoft, DOS is the standard, IBM-compatible, 16-bit operating system. New operating systems (including Windows 95) do not rely on DOS.

display

The device you look at when you work with a computer, for example a CRT monitor (in desktop systems) or a Liquid crystal display (in notebooks).

DLL

See dynamic link library.

DLT

See digital linear tape.

DMA

See direct memory access.

DN

See directory number.

DOS

See Disk Operating System.

driver

A program that controls a device. Every device, whether it is a printer, disk drive, or keyboard, must have a driver program. A driver acts like a translator between the device and programs that use the device.

DSP

See digital signal processor.

dual in-line memory module

The protective packaging for microprocessor chips that provides a safe and convenient means of installing and removing the chip.

dual in-line pin

A type of protective packaging for silicon memory chips that provides a safe and convenient means of installing and removing the chip.

dynamic host configuration protocol

A protocol for assigning dynamic IP addresses to devices on a network.

dynamic link library

A library of executable functions or data that can be used by a Windows application. Typically, a DLL provides one or more particular functions and a program accesses the functions by creating either a static or dynamic link to the DLL. A DLL can be used by several applications at the same time.

E

ECC

See error correction code.

ECP

See extended capabilities port.

EEPROM

See electronically erasable programmable read-only media.

EIDE

See enhanced IDE.

EISA

See extended industry standard architecture bus.

ELAN

Embedded local area network

electronically erasable programmable read-only media

A memory chip that needs only a higher than normal voltage and current to erase its contents. EEPROM can be erased and reprogrammed without taking them out of their sockets. EEPROM gives computers and their peripherals a means of storing data without the need for a constant supply of electricity.

EMI

Electro-magnetic interference

enhanced IDE

An IDE hard disk interface enhanced with hardware and firmware changes to support disks larger than 540 Mbytes, four disks instead of two, and faster transfer rates. *See also* IDE.

enhanced parallel port

A parallel port standard for PCs that supports bidirectional communication between the PC and attached devices (such as a printer).

EPP

See enhanced parallel port.

error correction code

A scheme that can detect and fix single-bit memory errors without crashing the system. Also known as Error Detection and Correction (EDAC).

Ethernet

A widely used LAN protocol that uses a bus topology and supports data transfer rates of 10 Mbps.

expansion board

Any board that plugs into one of the computers expansion slots. Expansion boards include controller boards, LAN cards, and video adapters.

expansion bus

Enables expansion boards to access the microprocessor and memory. *See also* bus.

extended capabilities port

A parallel-port standard for PCs that supports bidirectional communication between the PC and attached devices (such as a printer).

extended industry standard architecture bus

A 32-bit bus that accommodates ISA PC boards.

F

FAT

See file allocation table.

FIFO

First in, first out

file allocation table

A table that the operating system uses to locate files on a disk.

FITS

Failures in ten to the ninth hours. The number of failures expected in one million hours.

G

gateway

Refers to software or a computer running software that enables two different networks to communicate.

Gbyte

See gigabyte.

general protection fault

A computer condition that causes a Windows application to crash. GPFs are commonly caused when one application attempts to use memory assigned to another application.

gigabyte

Two to the 30th power (1 073 741 824) bytes. One gigabyte is equal to 1024 megabytes.

GPCP

General purpose computing platform

GPF

See general protection fault.

graphical user interface

What is seen on the monitor when an Windows application (or another non-command-based application) runs. A GUI uses features such as pointers, icons, I-beams and menus to make the program easier to use.

GUI

See graphical user interface.

H

HAL

See hardware abstraction layer.

handshaking

A process involved in establishing a valid connection or signal between two pieces of hardware or communications software.

hardware abstraction layer

The software layer between the operating system and the hardware.

hub

A common connection point for all 10Base-T cables connected to a small network. A hub enables data to go from one device to another.



icon

A small picture that represents an object or program in a GUI.

IDE

Commonly used to describe the AT attachment design, the dominant hard disk interface. IDE is a cost-effective interface technology for mass storage devices in which the controller is integrated into the disk or CD-ROM drive.

IEEE

See Institute of Electrical and Electronics Engineers.

INCA

See Interrupt and Control ASIC.

Industry Standard Architecture

A 16-bit standard interface for add-in cards.

input/output

Refers to any operation, program, or device that enters data into a computer or to extracts data from a computer.

Institute of Electrical and Electronics Engineers

An organization of engineers, scientists and students that develops standards for the computer and electronics industry.

interactive voice response

An application that allows telephone callers to interact with a host computer via prerecorded messages and prompts.

internetwork packet exchange

A networking protocol used by the Novell NetWare operating systems. Like UDP/IP, IPX is a datagram protocol used for connectionless communications. Higher-level protocols, such as SPX and NCP, are used for additional error recovery services.

inter-process communication

IPC enables one process to communicate with another process. It allows one application to control the other and permits several applications to share the same data without interfering with one another.

Also, a generic term for the communication of commands, events, or data between software processes.

Interrupt and Control ASIC

A special Intel chip used on the XXPRESS and AltServer platforms.

interrupt request

Hardware lines used by devices to send interrupt signals to the microprocessor, temporarily shifting program execution to another section of code. When a new device is added to a PC, often the IRQ number must be set to specify which interrupt line the device may use.

I/O

See input/output.

IP address

An identifier for a computer or device on a TCP/IP network. Networks use the TCP/IP protocol to route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. For example, 1.160.10.240 could be an IP address.

IPC

See inter-process communication.

IPX

See internetwork packet exchange.

IRQ

See interrupt request.

ISA

See Industry Standard Architecture.

ISO

International Standards Organization

IVR

See interactive voice response.

IVR ACD-DN

A directory number that routes a caller to a specific IVR application. An IVR ACD-DN must be acquired for non-integrated IVR systems.

J

jumper

A metal bridge that closes an electrical circuit. Typically, a jumper consists of a plastic plug that fits over a pair of protruding pins. Jumpers are sometimes used to configure expansion boards. By placing a jumper plug over a different set of pins, you can change a boards parameters.

K

kbyte

See kilobyte.

kilobyte

When used to describe data storage, a kilobyte represent 1024 bytes. When used to describe data transfer rates, a kilobyte represents 1000 bytes.

L**LAN**

See local area network.

LCD

Liquid crystal display

LED

Light emitting diode

local area network

A computer network that spans a relatively small area. Most LANs connect workstations and personal computers and are confined to a single building or group of buildings. LANs can transmit data at very fast rates, but the distances are limited.

M**M1**

Meridian 1 switch

MAT

Meridian Administration Tool

Mbyte

See megabyte.

MCS

Multimedia communications systems

megabyte

When used to described data storage, a megabyte represents 1 048 576 (2 to the 20th power) bytes. When used to described data transfer rates, as in Mbps, a megabyte represents one million bytes.

megahertz

One MHz represents one million cycles per second.

Meridian Mail

A Nortel product that provides voice messaging and other voice and fax services.

MHz

See megahertz.

MM

See Meridian Mail

modular test architecture

PCDIAGS is an integrated MTA package of DOS executable files from Intel that tests the base hardware of the NGEN machine.

motherboard

The principal board that has connectors for attaching devices to the bus. Typically, the motherboard contains the CPU, memory, and basic controllers for the system. On PCs, the motherboard is often called the system board.

MTA

See modular test architecture.

MTBF

Mean time between failures

N

NetBeui

See NetBIOS enhanced user interface.

NetBIOS

See Network Basic Input Output System.

NetBIOS enhanced user interface

An enhanced version of the NetBIOS protocol used by network operating systems such as LAN Manager, LAN Server, Windows for Workgroups, Windows 95 and Windows NT.

Network Basic Input Output System

An application programming interface (API) that augments the DOS BIOS by adding special functions for local-area networks (LANs). Almost all LANs for PCs are based on the NetBIOS. Some LAN manufacturers have even extended it, adding additional network capabilities.

network interface card

An expansion board that enables a PC to be connected to a local area network (LAN).

network loop interface

A proprietary digital voice interface into the M1 used by Meridian Mail.

New Technology File System

The file system introduced as part of the Windows NT O/S.

NIC

See network interface card.

NLI

See network loop interface.

ns

nanosecond

NTFS

See New Technology File System.

NTLDR

Windows NT bootstrap loader program

NVRAM

Non-Volatile Random Access Memory

O

OA&M

Operations, administration and maintenance

Object linking and embedding

A compound document standard that enables you to create objects with one application and then link or embed them in a second application.

ODBC

See Open Database Connectivity.

OEM

Original equipment manufacturer

OLE

See Object linking and embedding.

Open Database Connectivity

A Microsoft-defined database API standard.

Open System Interconnection

A worldwide communications standard that defines a framework for implementing protocols in seven layers.

OS

Operating Standard

OSA

Operating System Abstraction Layer

OSI

See Open System Interconnection.

P**parallel port**

A parallel interface for connecting an external device such as a printer. Most personal computers have both a parallel port and at least one serial port.

parity

The quality of being either odd or even. The fact that all numbers have parity is commonly used in data communications to ensure the validity of data. This is called parity checking.

PBX

See private branch exchange.

PC

See personal computer.

PCEB

PCI to EISA Bus Controller

PCI

See Peripheral Component Interconnect Bus.

PCMCIA

See Personal Computer Memory Card International Association.

PCXB

PCI-to-press-bridge

Peripheral Component Interconnect Bus

A new 32- or 64-bit local bus standard for PCs.

personal computer

A computer having an architecture that is compatible with the IBM PC.

Personal Computer Memory Card International Association

An industry group dedicated to promoting the new PCMCIA/PC Card Standard (credit card-sized peripherals for PCs).

phoneset attribute

An option that allows a user to log in to the system through a phoneset.

PIIX3

PCI-to-ISA/IDE/USB Subsystem

PLM

Product Line Management

PMC

PCI and Memory Controller

POST

See Power-On Self-Test.

Power-On Self-Test

Initializes and performs rudimentary tests on baseboard hardware, including CPU, floating point unit, interrupts, memory, real time clock, video, auto-initializing PCI and EISA bus.

primary supervisor

The supervisor who is associated directly with the agent. When the agent hits the Emergency key on the phone set, the call is presented to the agent's primary supervisor. The data related to the agent is associated with this supervisor.

private branch exchange

A telephone switch, typically used by a business to service its internal telephone needs. A PBX usually offers more advanced features than are generally available on the public network. A PBX interfaces with the public network central office using circuits known as trunks.

protocol

An agreed-upon format for transmitting data between two devices. The protocol determines the type of error checking to be used, the data compression method (if any), how the sending device will indicate that it has finished sending a message, and how the receiving device will indicate that it has received a message.

R

RAID

See Redundant Array of Inexpensive Disks.

RAM

See Random access memory.

RAN

Recorded announcement

Random access memory

The most common type of memory found in computers and other devices, such as printers. The term RAM is usually synonymous with main memory, the memory available to programs. For example, a computer with 8 Mbytes of RAM has approximately 8 million bytes of memory that programs can use.

ranking table

Defines how calls are routed to the sites on the network. A ranking table can be used as the sole mechanism for selecting the best site on the network to take a call.

RAS

See Remote Access Services.

read-only memory

Computer memory on which data has been prerecorded and cannot be removed.

real-time clock

A clock that keeps track of the time even when the computer is turned off. Do not confuse a computer's real-time clock with its CPU clock. The CPU clock regulates the execution of instructions.

Redundant Array of Inexpensive Disks

A category of disk drives that employs two or more drives in combination for fault tolerance and performance. RAID disk drives are used frequently on servers but are not generally necessary for personal computers.

registry

Windows NT central database for storing services, defaults, and so on.

Remote Access Services

A feature built into Windows NT that enables users to log into an NT-based LAN using a modem, X.25 connections, or WAN link.

RFI

Radio frequency interference

RGB

Red, green, blue: an electrical interface to a video monitor.

ROM

See read-only memory.

route

Defines a group of trunks. Each trunk carries either incoming or outgoing calls to the switch.

router

A device that connects two LANs. Routers are similar to bridges but provide additional functionality, such as the ability to filter messages and forward them to different places based on various criteria.

RPM

Revolutions per minute

RTC

See real-time clock.

Rule file

Stores the formulas and Symposium Call Center Server hardware configurations that the Capacity Assessment Tool uses to make analyses.

S

SCA

See single connector architecture.

SCM

See Service Control Manager.

SCO/Unix

A version of the Unix operating system that runs on PCs.

SCSI

See Small Computer System Interface.

SCU

See Software Configuration Utility.

secondary supervisor

A supervisor who is available for an agent if the agent's primary supervisor is unavailable. *See also* primary supervisor.

SEER

System Error and Event Report

Sequenced Packet Exchange

A transport layer protocol (layer 4 of the OSI Model) used in Novell Netware networks. The SPX layer sits on top of the IPX layer (layer 3) and provides connection-oriented services between two nodes on the network. SPX is used primarily by client/server applications.

serial port

A general-purpose interface that can be used for almost any type of device, including modems, mice, and printers (although most printers are connected to a parallel port). Most serial ports on personal computers conform to the RS-232C or RS-422 standards.

server

A computer or device on a network that manages network resources. Examples of servers include file servers, print servers, network servers, and database servers.

service

Process that adheres to a Windows NT structure and requirements. It provides system functionality.

Service Control Manager

A Windows NT process that manages the different services on the machine.

SIMM

Single In-line Memory Module

Simple Network Management Protocol

A set of protocols for managing complex networks. SNMP works by sending messages, called protocol data units (PDUs), to different parts of a network and then analyzing the responses.

single connector architecture

A method for supplying power and data lines in one connector on hard disks. Provides hot-swap capability.

Small Computer System Interface

A standard for connecting and controlling mass storage devices such as CD-ROMS, tape drives, and hard disks.

Small System Controller

The Small System Controller pack consists of the CPU, memory, network conference, and Ethernet controller.

SMI

System Management Interrupt

SNMP

See Simple Network Management Protocol.

Software Configuration Utility

A utility used to configure PCI and EISA cards. It can also set BIOS parameters.

SPX

See Sequenced Packet Exchange.

SRAM

Static Random Access Memory

stop bit

In asynchronous communications, a bit that indicates that a byte has just been transmitted. Every byte of data is preceded by a start bit and followed by a stop bit.

supervisor

A user who manages a group of agents.

SVGA

Super Video Graphics Adapter

switch

In networks, a device that filters and forwards frames, or packets of information.

switch resource

Devices that are configured on the switch through overlays.

system pack

A logical drive created from two or more physical hard disks using the RAID DAC960 software configuration utility.

T

TCP/IP

See Transport Control Protocol/Internet Protocol.

telephony

The science of translating sound into electrical signals, transmitting them, and then converting them back to sound. The term is used frequently to refer to computer hardware and software that performs functions traditionally performed by telephone equipment.

Token Ring

A PC network protocol developed by IBM. A token-ring network is a type of computer network in which all the computers are arranged (schematically) in a circle.

Transport Control Protocol/Internet Protocol

The suite of communications protocols used to connect hosts on the Internet. It is the standard for transmitting data over networks.

trunk

A communications link between a PBX and the public central office, or between PBXs. There are various trunk types which provide services such as Direct Inward Dialing (DID trunks), ISDN, and Central Office connectivity.

TTL

Transistor-transistor logic

U

unicode

A worldwide 16-bit character-encoding standard that allows text to be displayed in a wide choice of international languages.

uninterruptible power supply

A power supply that includes a battery to maintain power in the event of a power outage. Typically, a UPS keeps a computer running for several minutes after a power outage, enabling you to save data that is in RAM and shut down the computer safely.

UPS

See uninterruptible power supply.

utility

A program that performs a very specific task, usually related to managing system resources. Operating systems contain a

number of utilities for managing disk drives, printers, and other devices.

V

VGA

See video graphics adapter.

video adapter

An expansion board that contains a controller for a graphics monitor.

video graphics adapter

A standard video interface for computers.

voice port

A channel within an IVR system. A voice port is defined as a 2500 telephone set for third-party IVR systems or as an RCS (517 or 2009) telephone set for Meridian Mail.

W

WAN

See Wide area network.

Wide area network

A computer network that spans a relatively large geographical area. Typically, a WAN consists of two or more local area networks (LANs). The largest WAN in existence is the Internet.

Win32

A 32-bit API used to access the Windows operating system.

workload scenarios

The workload scenarios define typical patterns of system operations and are not directly related to the various hardware configurations of the system. There are five typical workload scenarios (entry, small, medium, large, and upper end) that are

used in performance evaluation for the Symposium Call Center Server.

X

XBUS

Two parallel bus structures, one for DMA-compatible devices, and one for memory devices that do not support DMA cycles. XBUS connects the real-time clock, flash memory, NVRAM, and keyboard/mouse controller.

Z

zero insertion force

A type of socket.

ZIF

See zero insertion force.

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