P0910106

Nortel Networks Symposium Call Center Server

Network Control Center Administrator's Guide

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This document is the first standard release of the *Nortel Networks Symposium Call Center Server Network Control Center Administrator's Guide* for Release 3.0.

Contents

Chapter 1

Getting started

In this chapter

Overview

Introduction

The *Nortel Networks Symposium Call Center Server Network Control Center Administrator's Guide* provides information on how to implement Network Skill-Based Routing (NSBR) in your call center.

For information on using or administering other tools and features of the Symposium Call Center Server components, refer to the appropriate document.

Who should read this guide

This guide is for Symposium Call Center Server administrators who are responsible for setting up and maintaining NSBR in a call center with multiple Symposium Call Center Servers.

Types of experience or knowledge that can be useful include

- networking
- troubleshooting
- configuring Windows NT
- call center goals and operations

Access rights

This guide assumes that you have the access rights required to perform the procedures in this guide. Because changes made at the Network Control Center (NCC) affect all sites in the network, access to the NCC must be restricted to administrators who are familiar with NCC operations. For more information on access rights, refer to the *Administrator's Guide*.

The process of logging on to the NCC is the same as logging on to any other Symposium Call Center Server. To log on to the NCC, you must have

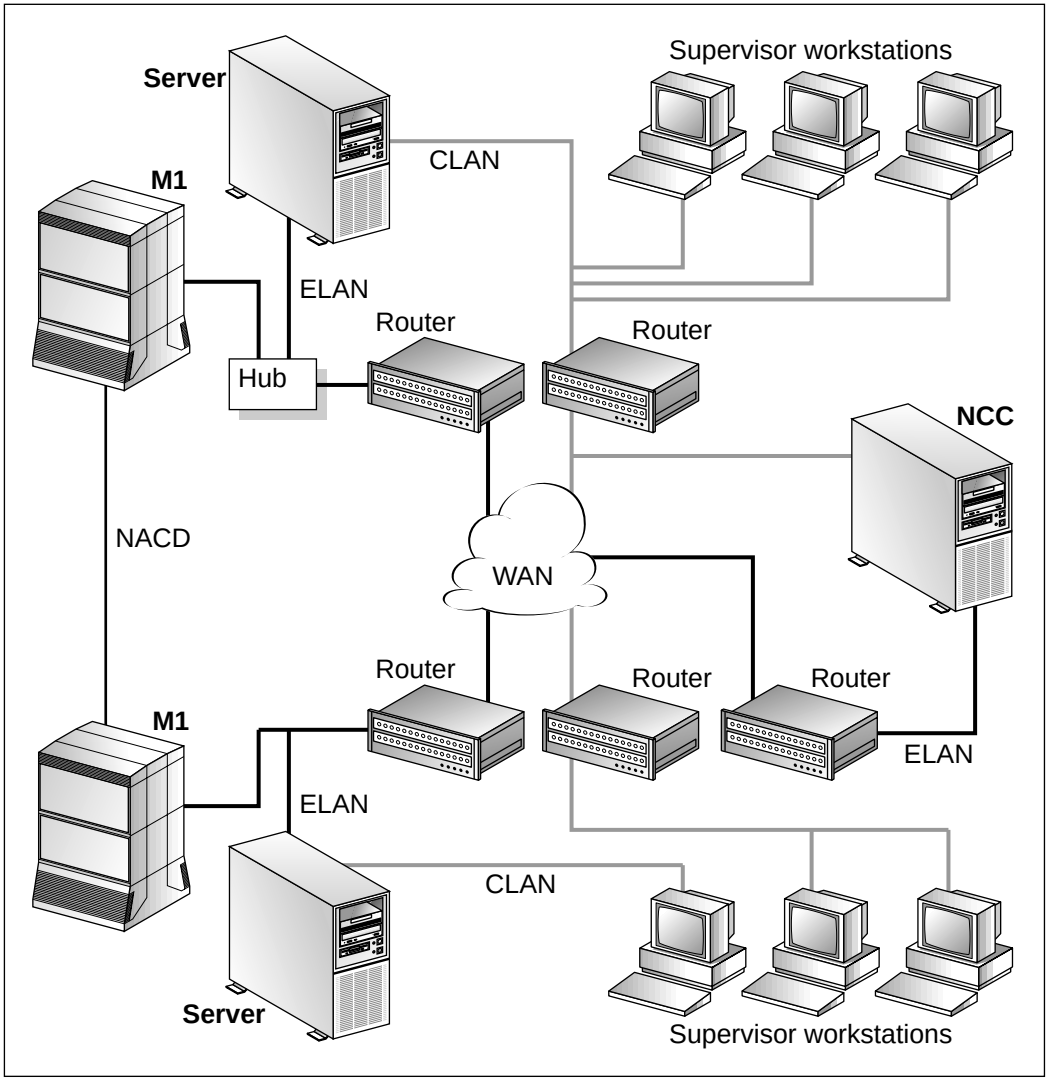
- a server defined in the SMI Workbench on the client PC
- a desktop user account with the necessary privileges at the NCC

Optional features

Some features described in this guide are optional. To give you access to features, Nortel Networks supplies a special code called a keycode. Use this code when you install the Symposium Call Center Server software. Fields and commands for features that you have not purchased are not visible.

The Symposium Call Center Server network

Components of the Symposium Call Center Server network



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Sites

A site is a location in the network with a Meridian 1 (M1) switch and a Symposium Call Center Server. The server connects to the switch through the Embedded LAN (ELAN).

In addition, each site has client PCs, which are used to configure and monitor the call center. The client PCs communicate with the server over the customer LAN (CLAN).

M1 switch

The M1 switch is the hardware and software that receives incoming calls and routes them to their destination.

Symposium Call Center Server

The server is the computer that controls the routing of calls, and stores data, including configuration data and historical statistics. At each server, you must configure the dialable DN to every other site in the network. After you configure the dialable DN for a remote site, your server can route calls to that site.

The Network Control Center

The Network Control Center (NCC) is a server in the Symposium Call Center Server network. However, unlike the other Symposium Call Center Servers, it is not connected to a switch and it performs no call routing or processing. Instead, it is responsible for

- managing communication between servers
- propagating configuration information
- validating servers
- collecting network call-by-call statistics (statistics recording call events occurring at the destination site)
- producing consolidated, network call-by-call, and configuration reports

Note: If the NCC goes down, calls are still routed between sites in the network. However, no network call-by-call data is transferred to the NCC and you cannot create, delete, or edit network skillsets, sites, or routing tables.

Managing communication between servers

The NCC contains a database listing all the servers in the network, their IP addresses, and their statuses. When the configuration changes, the NCC sends the new configuration information to each server. Each server reports to the NCC regularly (every five minutes), to let the NCC know that it is accessible.

For more information about setting up the communication database, see Chapter 3, “Installing Network Skill-Based Routing.”

Configuring Network Skill-Based Routing

From the NCC, you must perform these tasks to enable NSBR:

- configure network skillsets—skillsets shared by all sites in the network
- configure sites—servers to which network calls can be presented
- configure routing tables—the tables that determine the order of sites to which a call will be presented

When created or modified, this configuration information is propagated to all servers in the network.

Propagating NSBR configuration information

The NCC uses the ELAN to propagate the configuration information (network skillsets, sites, and routing tables) to each server in the network:

- when that server comes up
- when communication with a server is reestablished after the server becomes inaccessible

Note: Call processing has a higher priority than synchronization of network information. This ensures that customer service is not disrupted by propagation of configuration information.

Validating servers

Servers communicate with the NCC regularly, to let the NCC know that they are available on the network. When a server attempts to communicate with the NCC, the NCC verifies that the server is defined in the NCC database.

Collecting network call-by-call statistics

Optionally, you can use the network call-by-call feature. If you enable this feature for an application, each site in the network collects call-by-call statistics for incoming network calls processed by that application, and sends this information to the NCC every 15 minutes. The NCC stores the call-by-call statistics for use in network call-by-call reports.

Notes:

- Network call-by-call events are delivered to the NCC over the CLAN. If you use this option, ensure that your network is provisioned to support the resulting traffic.
- If the NCC is not accessible, network call-by-call data is stored at the source server until the NCC becomes available again. If the source server runs out of disk space before the NCC becomes available, it begins overwriting the oldest network call-by-call data files with the new one.

Producing reports

From a client PC connected to the NCC, you can generate the following types of reports:

- consolidated reports—These reports allow you to report on an application or skillset's performance across the network.
- network call-by-call report—This report allows you to report on all events relating to networked calls.
- configuration reports—These reports allow you to view the setup of the NCC.

Note: Ensure that your network is provisioned to support the traffic generated by consolidated, network call-by-call, and configuration reports. For more information, refer to the *Planning and Engineering Guide*.

ELAN

In a networking environment, the ELAN is used for

- communication between the servers, including
  - agent reservation requests transmitted between servers
  - configuration data transmitted from the NCC to the other servers
- communication between the servers and the switch

The NCC controls communication of the servers over the ELAN.

CLAN

In a networking environment, the CLAN is used for

- communication between the server and the client
- transmission of call-by-call event data from the servers to the NCC
- transmission of consolidated report data from the servers to the NCC

WAN

A WAN typically connects two or more local area networks (LANs) at multiple locations.

Routers

Routers connect the CLANs and ELANs at all sites.

NACD

The switches communicate over the telephony network, using network ACD (NACD).

Introduction to Network Skill-Based Routing

Introduction

Network Skill-Based Routing (NSBR) is an optional feature offered with the Symposium Call Center Server. You can use this feature to route calls to different sites on the network. This section describes how the NSBR features routes calls between sites.

Network skillsets

Network skillsets are created at the NCC, and then propagated to all of the servers in the network. If a server has a local skillset of the same name, the local skillset is replaced with the network skillset. For example, BestAir's Toronto server has a skillset named Sales. When the NCC administrator creates a network skillset named Sales, the Sales skillset at BestAir Toronto becomes a network skillset.

However, scripts are not automatically updated to route calls to the network. Calls routed to the network skillset (Sales) continue to be queued locally. To route calls for Sales to other sites, you must add the script command Queue To Network Skillset Sales.

For more information on editing scripts, refer to the *Symposium Call Center Server Scripting Guide*.

Call queuing

When the server at the originating site receives a call, it initiates the Master_Script. The Master_Script—and any primary or secondary scripts it initiates—processes the call. To implement NSBR, the scripts use a Queue To Network Skillset script command. This command instructs the server to queue the call to up to three destination sites, as defined in the routing table for the network skillset. For more information on routing tables, see "Configuring the routing table for a site" on page 42.

Note: To help balance call load, the server varies the order of the three sites each time it queues a call.

Reserving agents

When an agent becomes available at one of the destination sites, the destination site reserves the agent for the network call, and notifies the originating site that an agent is available.

Call routing

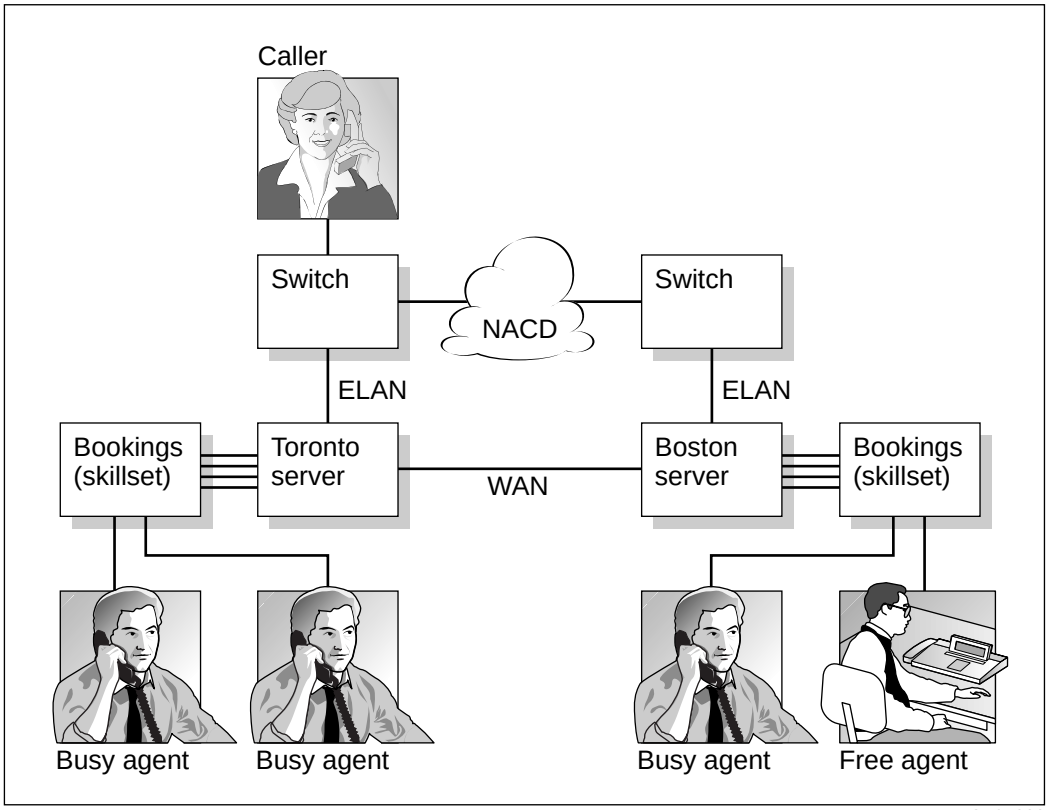
The originating server instructs the switch to route the call to the destination switch, using NACD. The originating server provides the configurable dialable number (Dialable DN) at which the destination site can be reached. The dialable DN used to route networking calls to a destination site must be a CDN configured as a network CDN.

After the call is routed, the originating server cancels agent reservations at all other sites. The script at the source site terminates its control of the call, and the Network_Script at the destination site assumes control.

If the reserved agent becomes unavailable after the call is routed (for example, if the agent logs off), the call remains at the local site and is automatically queued to another agent with the required skillset.

Example

BestAir has servers in Toronto, Boston, Dallas, and San Francisco. A call for the Bookings skillset arrives at the Toronto switch, which notifies the Toronto server. No agents are available in Toronto with that skillset. However, agents are available in Boston.



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The script logic results in the following events:

1. The Toronto server uses the ELAN and the WAN to queue the call to the Bookings skillset at the Boston server.
2. The Boston server reserves an agent assigned to the Bookings skillset and (again using the WAN) notifies the Toronto server that the agent is reserved.
3. The Toronto server uses the ELAN to instruct the Toronto switch to route the call to the Boston switch.
4. The Toronto switch transfers the call to the Boston switch.
5. The Boston switch presents the call to the reserved agent.

Retries and filtering

Filtering temporarily removes from the routing tables any sites that are not accepting routed calls.

Before the switch presents a call to a reserved agent, if the originating server determines that it cannot route the call to the destination site, the originating server does the following tasks:

1. It cancels the agent reservation.
2. It checks to see whether the call is queued at any other destination site in the routing table.

   If the call is queued at any other sites, the server waits for a response from those destination sites. If it is not queued, the server queues the call to the next three destination sites configured in the routing table.
3. It filters the destination site from all routing tables for a configurable retry period (Time Between Retries).

After the retry period elapses, the server again begins queuing calls to the destination site. Each time a route attempt fails, the server filters the destination site from its routing table. After a configurable number of failed attempts (Number of Retries), the server filters the destination site from its routing table for another configurable period (Filter Timer).

The originating site does not attempt to queue calls for that skillset to that site until the filter timer has elapsed or until a user manually stops filtering the site.

Example

1. BestAir Toronto receives a call for the Bookings skillset, which is a network skillset.
2. Toronto uses the routing table for the skillset to queue the call to BestAir Boston.
3. Boston reserves an agent and notifies Toronto.
4. Toronto routes the call to Boston.
5. The route attempt fails because all trunks are busy at Boston. In the next five seconds (Retry Timer = 5 seconds), Toronto receives several more calls

for skillsets at Boston, but it does not attempt to queue these calls to Boston. (However, the server does not cancel existing requests to Boston.)

6. After five seconds elapses, Toronto receives another call for Bookings and no local agent is available.

7. Toronto attempts to queue this call to Boston. Again, an agent is reserved, but the call cannot be routed.

8. After one more failed attempt (Number of Retries = 3), Toronto cancels all requests to Boston and filters Boston from all its routing tables for one hour (Filter Timer = 1 hour). That is, not only does it filter Boston from the routing table for Bookings, but it also filters Boston from the routing tables for all other network skillsets.

9. After an hour elapses (the Filter Timer period), BestAir Toronto again begins attempting to queue calls to Boston.

Maximum queue size

If the total number of calls (local and network) queued for a skillset at the destination site exceeds the maximum queue size defined for the skillset (Call Request Queue Size), then the site is filtered out of the routing table for the skillset. The filtering process continues until the number of queued calls decreases by a configurable amount (Flow Control Threshold).

Example

BestAir Toronto is attempting to queue a call for the Bookings skillset to BestAir Boston. However, Boston already has 50 calls (the Maximum Queue Size) queued for the skillset, so the Boston server rejects the call. BestAir Toronto filters BestAir Boston from the routing table for this skillset.

Note: Boston is not filtered from the routing tables for other skillsets.

When the number of calls queued to Boston for the Bookings skillset decreases by 10 (the Flow Control Threshold)—that is, when calls queued to the Bookings skillset drop to 40—Boston notifies Toronto. Toronto again begins attempting to queue calls for this skillset to Boston.

Out of service

If a skillset at the destination site is out of service—for example, if no agents with the skillset are logged on, or if the skillset is put into transition or night mode manually—then the destination site rejects the call, and the originating site filters the destination site out of the routing table for the skillset.

If a skillset at the destination site goes out of service after an agent is reserved, but before the call is routed, the server cancels the agent reservation and waits for an agent to be reserved at one of the other sites to which the call is queued.

If a skillset at the destination site goes out of service after a call has been routed to the destination site, the call is removed from the skillset queue. You can use the Queued intrinsic in the Network_Script to detect unqueued calls. The Network_Script must provide treatments for unqueued calls.

Chapter 2

Configuration overview

In this chapter

Configuration overview

Introduction

To implement NSBR, you must perform the following configuration and setup tasks:

1. On the switch, configure the following elements:
   - NACD
   - a CDN to be used as a network CDN by the server

   For more information, see the *Symposium, M1, and Voice Processing Guide*.
2. Install Symposium Call Center Server on each server. (Each server must have Symposium Call Center Server Release 3.0 installed.) For more information, see the *Software Installation and Upgrade Guide.*
3. Install the NCC, configure the communications database, and verify that the database has been distributed to the servers (see Chapter 3, “Installing Network Skill-Based Routing.”)
4. **At the NCC**:
   a. Create access classes. For more information, see the *Administrator’s Guide*.
   b. Create desktop users. (You cannot configure agents or supervisors at the NCC.) For more information, see the *Administrator’s Guide*.
   c. Configure the first site (see “Adding a site” on page 36).
   d. Define the network skillsets (see “Adding a network skillset” on page 54).
   e. Configure the routing tables for the first site (see “Configuring the routing table for a site” on page 42).
   f. Define the remaining sites, one at a time, and configure their routing tables.
   g. Set up table routing assignments (see “Adding a new table routing assignment” on page 61).

h. Configure network historical statistics collection (see “Configuring historical statistics collection” on page 76).

5. **At each server**:

   a. Define network CDNs (see “Configuring a network CDN” on page 81).

   b. Configure the Network Communication Parameters (see “Configuring communication parameters” on page 84).

   c. Configure network skillsets (see “Configuring network skillset properties” on page 89).

   d. Assign agents to the network skillsets. For more information, see the *Administrator’s Guide.*

   e. Add network commands to scripts to ensure that calls can be queued to network skillsets. (Validate scripts after editing them.) For more information, see the *Scripting Guide.*

   f. Configure the Network_Script. This is a primary script that controls pegging and termination treatments for incoming network calls. For more information, see the *Scripting Guide.*

Chapter 3

Installing Network Skill-Based Routing

In this chapter

Overview

Introduction

To install NSBR in your call center, perform these tasks:

1. Install the NCC.

   The NCC is the server that enables you to configure the network and generate consolidated reports.

   Note: Because the NCC does not perform call processing, not all services are functional at the NCC. SMonW should indicate that OAM, AUDIT, NCCOAM and HDM are UP. All other services have UNKNOWN status. For more information about SMonW, refer to the *Software Installation and Upgrade Guide*.

2. On the NCC, use the nbconfig utility to configure the communications database.

   NCC verifies the status of each server and distributes its site table to each server in the network.

   ATTENTION

   All sites must be using Symposium Call Center Server Release 3.0.

3. On each server, verify that the communications database is set up correctly.

   Each server receives the new site table from the NCC, and compares it with its current table. If a server detects new servers in the site table, it contacts those servers to request address tables. When a new server is added to the network, it receives requests from every other server in the network, and it sends each server a copy of its address table.

Installing the NCC

To install the NCC

Installation of the NCC is almost identical to installation of the Symposium Call Center Server. There are two differences:

- You must enter a special keycode to identify the server as an NCC server.
- Because the NCC does not connect to a switch, the installation program does not prompt you for switch information (such as switch name, IP address, type).

For detailed information on a server installation, refer to the *Software Installation and Upgrade Guide.*

Configuring the communications database

Introduction

On the NCC, you must configure the communications database. The communications database lists all servers in the network, their IP addresses, and their status. The NCC distributes the database to all servers in the network to enable communication and NSBR among multiple sites.

ATTENTION

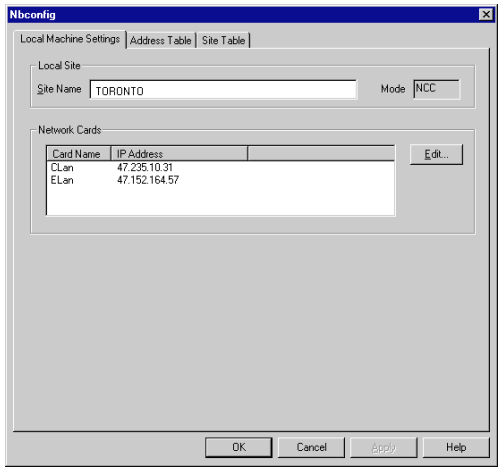
All servers in the network must be running Symposium Call Center Server Release 3.0.

Note: All site names and ELAN IP addresses must be unique.

To start the nbconfig utility

1. On the NCC, from the Windows Start menu, choose Run.
2. In the Open box, type **nbconfig –admin**.
3. Click OK.

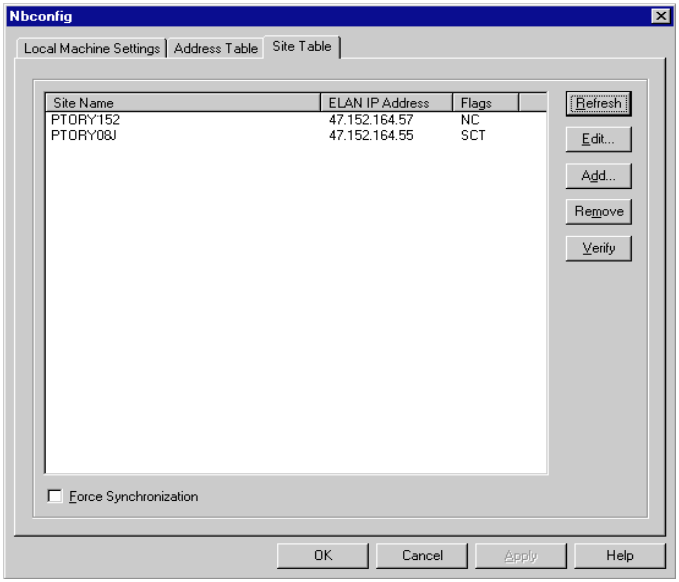
   Result: The Nbconfig property sheet opens.



To add a server

1 Click the Site Table tab.

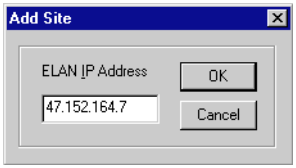
Result: The Site Table property page appears.



Note: Do not click Force Synchronization. When you force synchronization, you force each site in the network to request address table information from every other site in the network. This can result in unnecessary use of network bandwidth. (Normally, servers only request address table updates when the NCC notifies them that the site list has changed.) Use the Force Synchronization option if information at a site is not being updated.

2 Click Add.

Result: The Add Site dialog box appears.



3 In the ELAN IP Address box, enter the server's ELAN IP address.

ATTENTION

Each server's ELAN IP address must be unique.

4 Click OK.

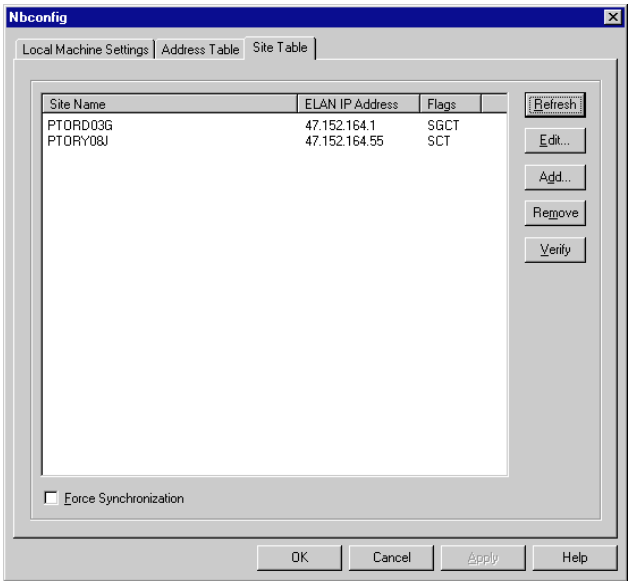
Result: The server is added to the list in the site table.

5 Repeat steps 2 to 4 for each server in your network.

Note: To save time and system resources, make all of your changes before clicking Apply.

6 When all of the servers have been added, update the database and synchronize the site table. To synchronize the table, click Apply.

Result: The Flags column shows the progress of synchronization. Click Refresh to update the status of the flags. Synchronization is complete when an "N" appears in the Flags column beside the NCC and an "S" appears beside each server.



Nbconfig flags

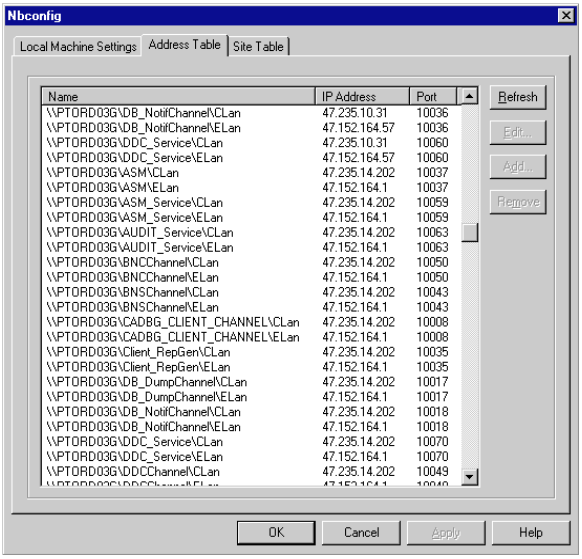
The Flags column in the site table can contain the following values:

N	Network Control Center (NCC)
S	Server
T	NCC is transferring information to server
G	NCC is getting information from server
D	Deleting site
C	Changing site information

7 Click the Address Table tab.

Result: The communication addresses of the new servers appear in the address table.

Note: This is also how you verify the configuration of the communications database at each server and ensure that each site has valid IP addresses.



Chapter 4

Administering the NCC

In this chapter

Overview

Introduction

At the NCC, you create and maintain the following elements to ensure effective NSBR:

- sites
- network skillsets
- routing table assignments

In addition, you configure the number of days that the NCC stores network call-by-call statistics.

This chapter explains how to perform these tasks at the NCC.

ATTENTION

The NCC administrator must understand how changes made at the NCC affect other sites in the network. The NCC administrator must plan changes with, and communicate them to, administrators of other servers in the network.

Section A: Managing sites

In this section

Overview of sites

Introduction

Each site is a location in the network with a M1 switch and a Symposium Call Center Server. You must configure the NCC with information about all sites participating in the network. The NCC uses this information to communicate with the servers and to enable the servers to communicate with each other.

You configure sites at the NCC. The NCC then sends the site information to each server in the network.

Site synchronization

When the NCC comes up, it sends site information to each connected server. Occasionally, servers go down or become inaccessible to the NCC. When communication between the server and the NCC is reestablished, the NCC resends site information to the server.

You can also manually initiate the sending of site information to the servers in the network (see “Synchronizing sites” on page 46).

How the NCC uses the site information

The NCC uses the configured list of sites to do the following tasks:

- Validate a site when it attempts to initiate communication with the NCC.
- Distribute configuration information to sites.
- Provide site information (including time zone) to connected client PCs that are generating consolidated or network call-by-call reports.

How each server uses the site information

Each Symposium Call Center Server in the network uses the site list to do the following tasks:

- Assign the network communications parameters (for example, the dialable DN, agent reservation timer, and so on).
- Communicate with other servers to reserve agents at those servers.

For more information on administering servers, see Chapter 5, “Administering servers.”

Time zone conversion

Introduction

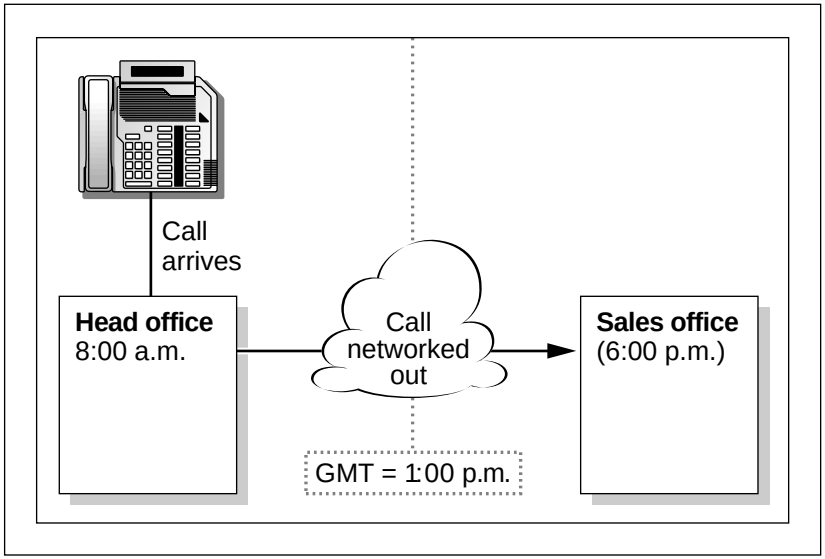
If your sites are in different time zones, you can use time zone conversion to help clarify information on consolidated and network call-by-call reports. This feature works differently for these two types of reports.

Notes:

- Ensure that the Windows Date and Time Settings are correct at each site.
- Restart each Symposium Call Center Server after a time zone change.
- Consolidated and network call-by-call reports are only available from the NCC.

Network call-by-call report

The network call-by-call report provides information about all events happening to a call that is routed to the network. To understand how time zone conversion works for the network call-by-call report, consider the following illustration. It shows a call arriving at Head office at 8:00 a.m. local time (1:00 p.m. GMT). Head office routes the call to the Sales office, where local time is 6:00 p.m.



Without configuring time zone relative to GMT

If you do not configure the time zone relative to GMT, the network call-by-call report contains the following information about the call.

Time	Server	Event
08:00:00 a.m.	Head office	Local Call Arrived
08:00:14 a.m.	Head office	Local Call Networked Out
08:00:27 a.m.	Head office	Network Out Call Answered
06:00:54 p.m.	Sales office	Network In Call Arrived
06:00:54 p.m.	Sales office	Network In Call Answered

Tracing call activity across the two time zones can be difficult.

With time zone relative to GMT configured correctly

If you configure the Time Zone Relative to GMT correctly for each site (in the Site Properties dialog box), time zone conversion occurs automatically. All times are converted to the source site time.

Time	Server	Event
08:00:00 a.m.	Head office	Local Call Arrived
08:00:14 a.m.	Head office	Local Call Networked Out
08:00:27 a.m.	Head office	Network Out Call Answered
06:00:54 p.m.	Sales office	Network In Call Arrived
06:00:54 p.m.	Sales office	Network In Call Answered

Note: For the network call-by-call report, the destination site converts times to the source site time zone before sending events to the NCC.

Consolidated reports

Consolidated reports can provide information for all the sites participating in the network. When you create a consolidated report, you specify the period to be included in the report, and you choose whether to use time conversion.

Without time zone conversion

Without time zone conversion, a consolidated report contains information for the same hours (for example, from 12:00 p.m. to 1:00 p.m.) at all sites.

For example, if you want to see lunchtime call activity at all of your sites, then you enter a start time of 12:00 p.m. and an end time of 1:00 p.m. (Do not choose the time zone conversion option.) The report shows activity at each site in the network between 12:00 p.m. and 1:00 p.m., local time.

With time zone conversion

With time zone conversion on a consolidated report, you can view call activity for the same period, specified in the time zone of the NCC.

For example, if you want to interpret the impact of a simultaneous, live broadcast of a new commercial on sales activity throughout the network, use time zone conversion. If the commercial airs at 8:00 p.m., NCC time, enter a start time of 8:00 p.m. and an end time of 9:00 p.m., and select the time zone conversion option. The time is converted to local time for each site.

Note: The time difference is calculated when sites are selected and saved with a report. If the time at the NCC changes after the report is saved, then sites must be deselected and selected again to ensure that the time difference is calculated correctly.

Adding a site

Introduction

A site is a location in the network with a M1 switch and a Symposium Call Center Server. You add sites at the NCC. When you add a site, the NCC propagates the information about the site to all servers in the network.

Notes:

- During initial setup of the system, add and set up one site. Make sure that site is correctly configured before you continue with the next site.
- You can add up to 30 sites.

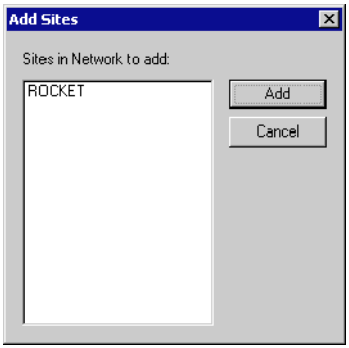
To add a site from the NCC

1 From the SMI window, choose Network Administration → Sites.

Result: The Sites window appears.

2 Choose File → Add Sites.

Result: The Add Sites dialog box appears.



The list contains the sites configured in the Nbconfig utility (see “Configuring the communications database” on page 22). If the list does not contain the new site, then you must add it to the site table (see “Configuring the communications database” on page 22).

3 Select the sites you want to add.

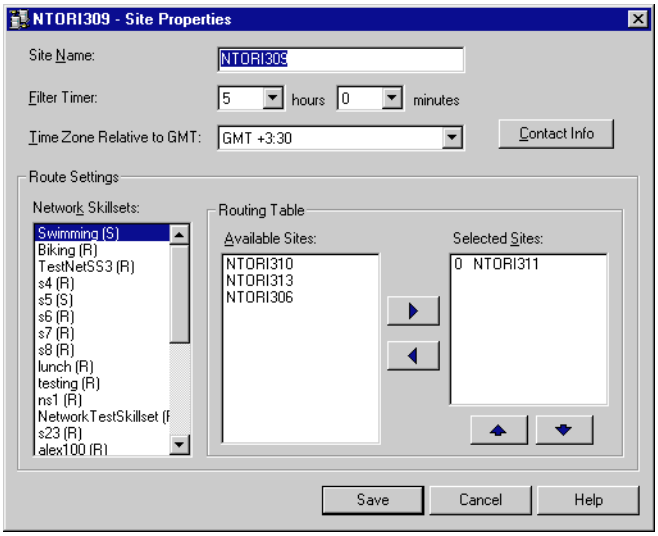
4 Click Add.

Result: The new site appears in the list in the Sites window.

5 Select the new site from the Sites window.

6 Choose File → Properties.

Result: The Site Properties dialog box appears.



7 Enter information into the following boxes:

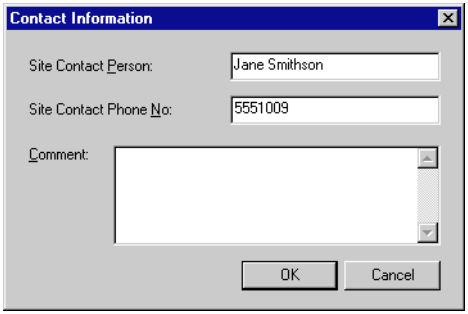
Filter Timer: The amount of time a site is filtered from the routing tables if it cannot be reached. When connections to a site fail the number of times specified in the Retry Timer (defined in the Network Communication Parameters window), the site is filtered from the routing table for the period specified here.

Time Zone Relative to GMT: The time difference (in hours) between GMT and the time zone in which the site is located. This information is used for time zone conversion in network call-by-call statistics and consolidated reports (see “Time zone conversion” on page 32).

8 To define the contact person for the site, follow these steps:

a. Click Contact Info.

Result: The Contact Information dialog box appears.



b. Enter information into the following boxes:

Site Contact Person: The person to be contacted if there are problems with the site.

Site Contact Phone No: The phone number of the contact person.

Comment: Optional. Additional information about the site contact.

c. Click OK.

9 Click Save.

After you finish

After defining a site, perform these tasks:

1. If you have not already defined the network skillsets, define them now (see “Adding a network skillset” on page 54.
2. Set up the routing table for the site (see “Configuring the routing table for a site” on page 42.
3. Log on to the server at the remote site and make sure that all network information (that is, network skillsets and other sites) has been propagated correctly.

Changing to daylight savings time

Introduction

When a site changes to or from daylight savings time, you must adjust the Time Zone Relative to GMT box for that site. By doing so, you maintain the correct relative time difference between servers.

For example, a company has two sites, Head Office (at GMT–5), and Sales Office (at GMT+5). Head Office changes to daylight savings time seven days before Sales Office, and Sales Office changes to daylight savings time seven days before GMT.

Time zone conversion does not operate correctly unless Time Zone Relative to GMT is adjusted. The following table shows the adjustments made for this example.

Time Zone Relative to GMT	Head Office	Sales
original value	-5	+5
when Head Office changes to daylight savings time	-4	+5
when Sales changes to daylight savings time	-4	+6
when GMT changes to daylight savings time	-5	+5

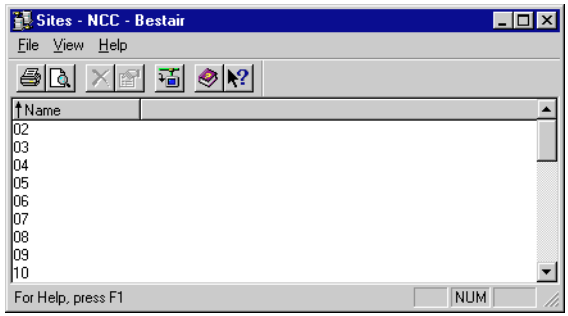
Similarly, when the sites change back from daylight savings time, you must adjust their relative times.

Note: If the time at the NCC changes, then sites currently selected for reports must be deselected and selected again to ensure that the time difference is calculated correctly.

To change the relative time

1 From the SMI window, choose Network Administration → Sites.

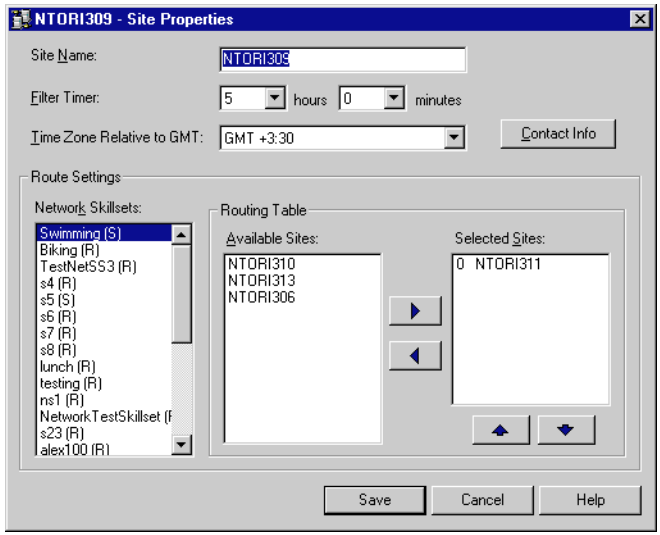
Result: The Sites window appears.



2 Select the site for which you want to change the relative time (that is, the site that is changing to or from daylight savings time).

3 Choose File → Properties.

Result: The Site Properties dialog box appears.



In the Time Zone Relative to GMT box, adjust the time to reflect the change in daylight savings time.

4 Click Save.

Configuring the routing table for a site

Introduction

A routing table defines the sites to which scripts using network skillsets route calls. Use this procedure to create or change a routing table. You can add or remove sites, or you can change the order of sites in the routing table.

You can select round robin or sequential routing. For more information on routing, see “Routing tables” on page 51.

Prerequisite

Before defining routing tables, you must add network skillsets. See “Adding a network skillset” on page 54.

To configure the routing table

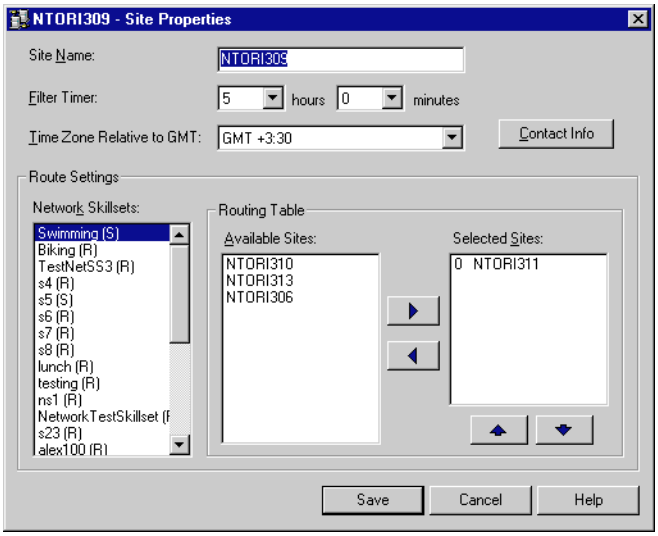
1 From the SMI window, choose Network Administration → Sites.

Result: The Sites window appears.

2 Select the site you want to configure.

3 Choose File → Properties.

Result: The Site Properties dialog box appears.



Note: In the Network Skillsets box, an “R” indicates that the skillset is configured for round robin routing; an “S” indicates that it is configured for sequential routing. To change the type of routing for a skillset, see “Adding a network skillset” on page 54.

To add a site

Note: To replace one site with another in the routing table, you must first delete the original site and then add the new site.

1 In the Network Skillsets box, select the network skillset you want to change.

2 In the Available Sites box, select the first site to be added to the routing table for the skillset.

3 Click the > button.

Result: The site is added to the routing table.

4 Repeat steps 2 to 3 for each site that you want to add to the routing table.

Note: You can define up to 20 sites for each network skillset. However, calls are only queued to three sites at a time.

To delete a site

1. In the Network Skillsets box, select the network skillset whose routing table you want to change.
2. In the Selected Sites box, select the site that you want to delete.
3. Click the < button.

   Result: The site is removed from the routing table and appears in the list of Available Sites.

To move a site

1. In the Network Skillsets box, select the network skillset whose routing table you want to change.
2. In the Selected Sites box, select the site that you want to move.
3. Click the up arrow to move the site up in the routing table, or click the down arrow to move the site down in the routing table.

To save a routing table

1. Click Save.

   Result: You are returned to the Sites window.
2. To return to the SMI window, choose File → Close.

Deleting a site from the network

Introduction

You might need to remove a server from your network. To prevent calls from being routed to that server, you must delete the corresponding site from the NCC.

Before you begin

- Remove the site from all routing tables and routing table assignments in which it is referenced (see “Configuring the routing table for a site” on page 42 and “Changing the routing table for an assignment” on page 65).
- Ensure that there are no network incoming calls queued to the site.

To delete a site

1 From the SMI window, choose Network Administration → Sites.

Result: The Sites window appears.

2 Select the site you want to delete.

3 Choose File → Delete.

4 Click Yes to confirm that you want to delete the site.

5 To return to the SMI window, choose File → Close.

Synchronizing sites

Introduction

The NCC shares information with the Symposium Call Center Servers in the network. This information includes

- sites in the network
- network skillsets
- routing tables

The NCC propagates this information to all sites in the network at the following times:

- when it restarts
- after recovering from a network error (for example, if the connection to a specific site was previously unavailable)
- when you initiate a resynchronization manually

When to resynchronize sites manually

Normally, you do not need to resynchronize sites manually. However, if the routing tables at the server do not match the routing tables at the NCC, you can force a manual resynchronization, rather than waiting for the NCC to propagate the changes across the network.

To initiate resynchronization manually

1 From the SMI window, choose Network Administration → Sites.

Result: The Sites window appears.

2 Select the site you want to synchronize.

3 Choose File → Synchronize.

Result: The NCC sends information to the selected site.

Section B: Managing network skillsets

In this section

Overview of network skillsets

Introduction

A skillset is a group of capabilities or knowledge necessary to answer a specific type of call. Skillsets are the basic building blocks of skill-based routing. They help call centers to match callers with the agents who can best meet their needs.

A network skillset is a skillset that is common to all Symposium Call Center Servers in a network. When a script queues a call to a network skillset, that call can be routed to any server on the network, as determined by your scripts and your configured call presentation options.

Creation and propagation of network skillsets

The NCC administrator defines network skillsets on the NCC. The NCC distributes the list of network skillsets to the servers in the network. If a matching local skillset does not exist, then the server creates a new network skillset and you must assign agents to this new skillset. If a server already has a local skillset with the same name as the new network skillset, then the server converts that local skillset to a network skillset. (Agents assigned to the local skillset remain assigned to the new network skillset of the same name.) Now other sites can queue calls to the skillset.

However, scripts are not automatically updated to route calls to the network. Calls routed to the network skillset continue to be queued locally. To route calls to other sites, you must add the script command Queue To Network Skillset.

For more information on using network skillsets in scripts, see the *Scripting Guide*.

ATTENTION

The NCC administrator must plan changes with, and communicate them to, administrators of other servers in the network.

Resynchronization of network skillsets

When the NCC comes up, it sends the list of network skillsets to each connected server. Occasionally, a server goes down or become inaccessible to the NCC. When communication between the server and the NCC is reestablished, the NCC resends the list of network skillsets to the server.

Deletion of network skillsets

When an administrator at the NCC deletes a skillset on the NCC, that skillset is no longer on the list distributed by the NCC. When a server receives the list, it detects that the network skillset has been deleted. It converts the local copy of the network skillset to a local skillset. The administrator of the server needs to update the scripts so that they no longer refer to the network skillset.

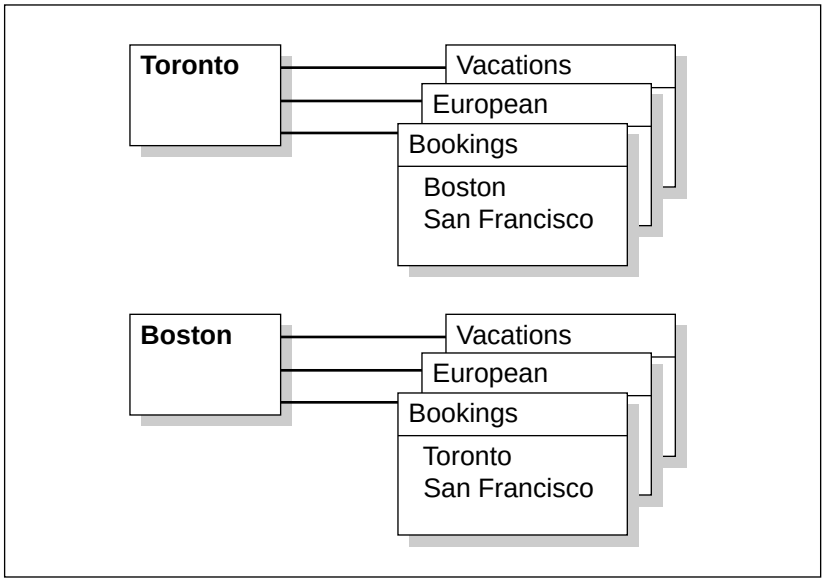
Note: If the network skillset is deleted and the call is only queued to that network skillset, then the Queue To Network Skillset command fails. Unless the script queues the call to other available skillsets, the call is queued to the default skillset and receives default treatment. For more information on using network skillsets in scripts, see the *Scripting Guide*.

Routing tables

A routing table defines how a call for a particular skillset is queued to network sites. Each site has a routing table for each network skillset at that site (see “Configuring the routing table for a site” on page 42).

If a site is being filtered, the site is removed from the routing table for a skillset until the Filter Timer period passes. If all sites are being filtered from a routing table, calls normally routed to the routing table for that skillset are defaulted, according to treatment defined in the script logic.

The following illustration shows the routing tables for the BestAir Toronto and Boston servers.



The Toronto server has routing tables for the Bookings, European, and Vacations skillsets. The routing table for the Bookings skillset contains the Boston and San Francisco servers.

When you create a network skillset, you choose the routing table type for that skillset. Two types of routing tables are available.

Round robin

The server queues the first call to the first, second, and third sites in the routing table for the network skillset. When an agent becomes available at one of these sites, the server reserves the agent, and the call is presented to the agent.

When the second call arrives, the server queues it to the second, third, and fourth sites in the routing table for the network skillset. When the third call arrives, the server queues it to the third, fourth, and fifth sites—and so on.

This type of routing table distributes calls most evenly among the sites.

Note: To further balance call load, the server varies the order of the three sites each time it queues a call.

Sequential

Whenever a call arrives, the server queues it to the first three sites in the routing table for the network skillset. When an agent becomes available at one of these sites, the server reserves the agent, and the call is presented to the agent.

When the second call arrives, the server queues it again to the first three sites in the routing table for the network skillset.

This type of routing table minimizes the number of trunks used to network calls.

Note: To help balance call load, the server varies the order of the three sites each time it queues a call.

Using network skillsets in scripts

In your scripts, you can queue a call to a network skillset. To queue a call to a network skillset, include the "Queue To Network Skillset <network skillset>" command. For more information, refer to the *Scripting Guide*.

Note: When you use this command, the server does *not* attempt to queue the call on the local server first.

Many call center managers prefer to queue calls to the network skillset on the local server. If no local agents are available, then they want the call to be queued to another site. To implement this type of queuing, use these commands in your script:

QUEUE TO SKILLSET <network skillset>
WAIT 2
QUEUE TO NETWORK SKILLSET <network skillset>
WAIT 2

These commands first queue the call to network skillset on the local server. They then queue the call to the network skillset on up to three remote sites (as defined in the routing table for the network skillset). If a local agent becomes available before the call is routed to a remote site, the call is presented to the local agent. This minimizes network traffic.

Adding a network skillset

Introduction

You must create network skillsets on the NCC. The NCC sends the list of network skillsets to all the servers in the network. If a server has a local skillset with the same name as a network skillset, then the server converts that skillset to a network skillset. If a matching local skillset does not exist, then the server creates a new network skillset.

Note: You can add up to 50 network skillsets.

Example

The network administrator creates a new skillset named Sales on the NCC. The NCC propagates this new skillset to the Toronto server. The Toronto server already has a skillset named Sales, with assigned agents. The server changes the skillset from a local to a network skillset. Agents assigned to that skillset continue to belong to the skillset, but they can now answer calls from other sites.

Note: The Queue To Skillset script command continues to work; however, it only queues calls locally. To queue calls to other sites, you must use the Queue To Network Skillset command.

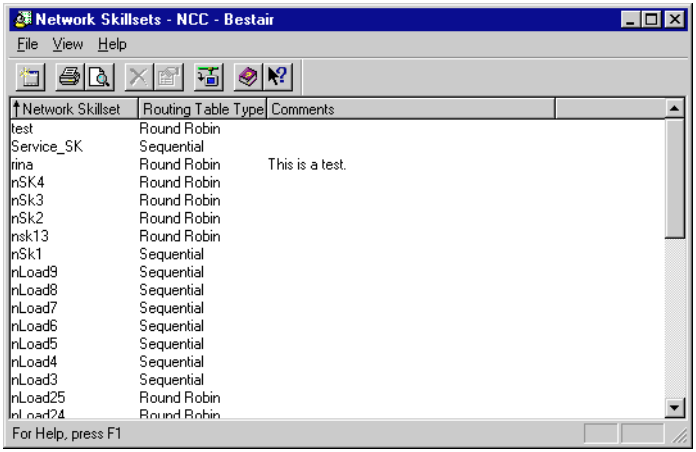
Assignment of agents to network skillsets

The process for assigning agents to network skillsets is the same as the process for assigning agents to local skillsets. (See the *Administrator's Guide*.) The server administrator of each server in the network must perform this task at the server.

To add a network skillset

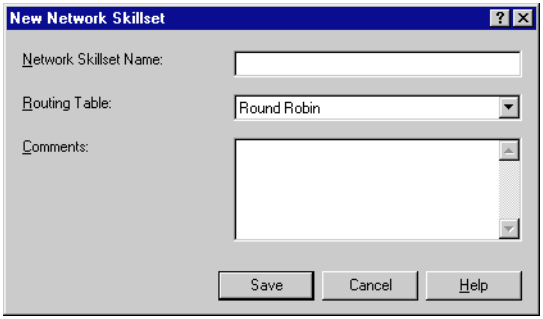
1 From the SMI window on the NCC, choose Network Administration → Network Skillsets.

Result: The Network Skillsets window appears.



2 Choose File → New.

Result: The New Network Skillset property sheet appears.



3 Enter information into the following boxes:

Network Skillset Name: The name of the network skillset. Network skillset names must be unique.

Note: You cannot change the name of a network skillset. To change a skillset name, you must delete the skillset and add it again.

Routing Table: The type of routing table to be used for this skillset—round robin or sequential. For more information, see “Routing tables” on page 51.

Comments: Optional. Additional information about the network skillset.

4 Click Save.

Result: The new skillset is added to the list in the Network Skillsets window.

5 To return to the SMI window, choose File → Close.

Deleting a network skillset

Introduction

You delete network skillsets at the NCC. After you delete a skillset, the skillset is no longer on the list distributed by the NCC. When a server receives the list, it detects that the network skillset has been deleted. It converts the local copy of the skillset to a local skillset.

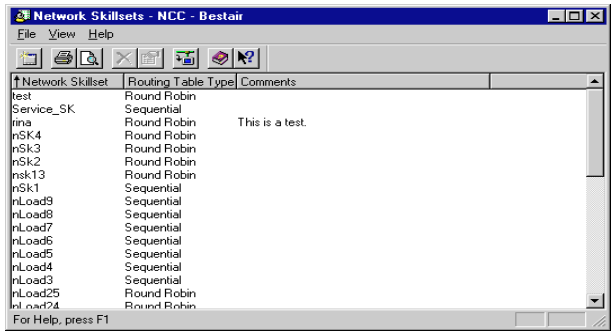
Before you begin

Remove the network skillset from all routing tables or routing table assignments in which it is referenced (see “Configuring the routing table for a site” on page 42 and “Changing the routing table for an assignment” on page 65).

To delete a network skillset

1 From the SMI window, choose Network Administration → Network Skillsets.

Result: The Network Skillsets window appears.



2 Select the network skillset you want to delete.

3 Choose File → Delete.

4 Click Yes to confirm that you want to delete the network skillset.

5 To return to the SMI window, choose File → Close.

After you finish

The administrator of each server must update the scripts so that they no longer refer to the deleted network skillset.

Note: If the server administrators fail to update the scripts, then a script might contain a Queue To Network Skillset command that queues a call to a deleted network skillset. This command fails.

Section C: Managing table routing assignments

In this section

Overview of table routing assignments

Introduction

When you configure a site, you define a routing table for each network skillset at that site. The routing table determines the sites to which a call for that skillset is routed.

When you need to change a routing table, you can change it manually (see “Configuring the routing table for a site” on page 42). However, if you need to change a routing table regularly—for example, as sites in different time zones become or cease to be available during regular business hours—you can set up routing table assignments. You can apply these assignments manually, or schedule them to occur regularly at a specific time.

Example

For example, BestAir has offices in Toronto and San Francisco. The Toronto office is open from 8:00 a.m. to 5:00 p.m., Eastern Standard Time. The San Francisco office is open from 9:00 a.m. to 6:00 p.m. Pacific Standard Time. The NCC administrator can create table routing assignments to route calls as follows:

- If a call arrives at Toronto between 5:00 p.m. and 9:00 p.m. EST (that is, after business hours), the Toronto server routes it to San Francisco.
- If the San Francisco server receives a call between 5:00 a.m. and 9:00 a.m. PST (that is, before business hours), it routes the call to Toronto.

Adding a new table routing assignment

Introduction

You can create a new table routing assignment, or you can create an assignment using another assignment as a template.

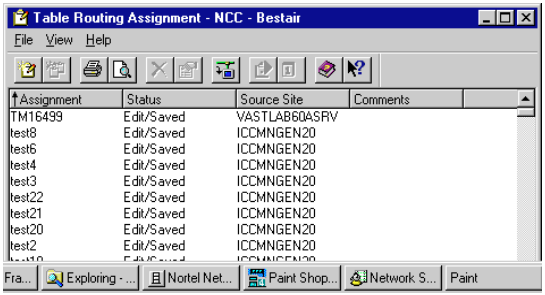
Each assignment applies only to the site for which it was defined.

To create a new assignment

1 From the SMI window, choose Network Administration → Table Routing Assignments.

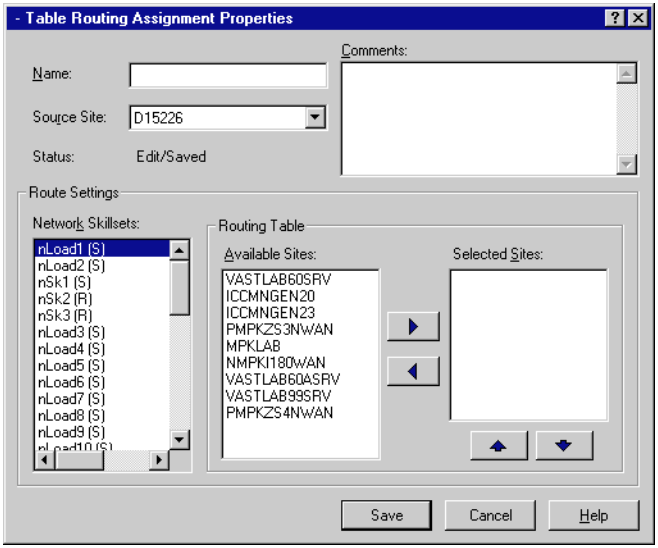
If you want to create a new table routing assignment without using a template, go to step 2. If you want to create a new table routing assignment by copying an existing assignment, go to step 3.

Result: The Table Routing Assignment window appears.



2 To create a new table routing assignment without using a template, choose File → New.

Result: The Table Routing Assignment dialog box appears. Skip to step 4.

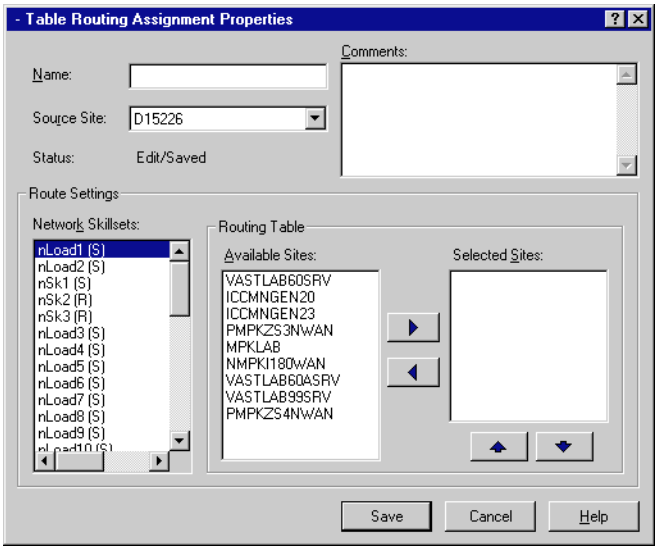


3 To create a new table routing assignment by copying an existing assignment, follow these steps:

a. Select the assignment you want to use as a template.

b. Choose File → Copy.

Result: The Table Routing Assignment Properties dialog box appears.



4 Enter information into the following boxes:

Name: A unique name to identify the assignment. Use a name that distinguishes this assignment from the others in the Table Routing Assignment window and describes what the assignment does or when it is used.

Source Site: The name of the site for which you are defining this assignment.

Comments: Optional. Additional information about the assignment.

5 In the Network Skillsets box, click the network skillset for which you want to set up a routing table.

6 In the Available Sites box, select the first site to be added to the routing table.

7 Click the > button.

Result: The site is added to the list in the routing table.

8 Repeat steps 6 to 7 for each site that you want to add to the routing table.

Notes:

- You can define up to 20 sites for each network skillset. However, calls are only queued to three sites at a time.
- To replace one site with another, you must first delete the original site and then add the new site.

9 Click Save.

Result: The new table routing assignment is added to the list in the Table Routing Assignments window.

10 To return to the SMI window, choose File → Close.

After you finish

If you want the assignment to take effect immediately, run it now (see “Running an assignment immediately” on page 68). If you want the assignment to take effect at a future time, schedule it (see “Scheduling an assignment” on page 69).

Changing the routing table for an assignment

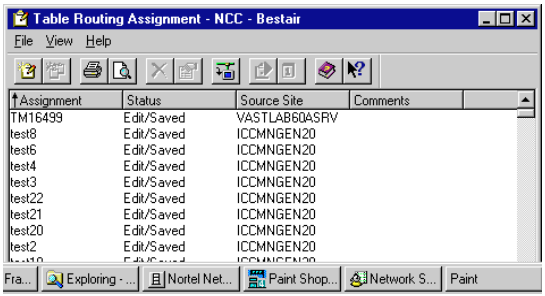
Introduction

You can change your routing tables by adding or removing sites, or by changing the order of the sites.

To change a table routing assignment

1 From the SMI window, choose Network Administration → Table Routing Assignments.

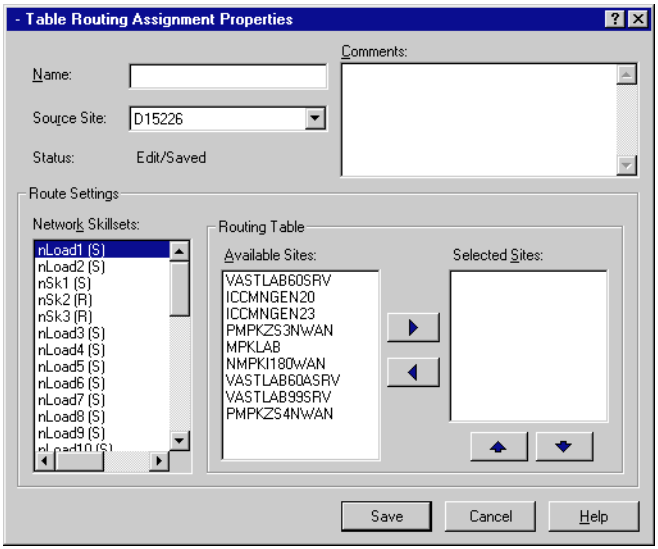
Result: The Table Routing Assignment window appears.



2 Select the Table Routing Assignment you want to change.

3 Choose File → Properties.

Result: The Table Routing Assignment dialog box appears.



To add a site to the routing table

1 In the Network Skillsets box, click the network skillset for which you want to change the routing table.

2 In the Available Sites box, select the first site to be added to the routing table.

3 Click the > button.

Result: The site is added to the list in the routing table.

4 Repeat steps 2 to 7 for each site that you want to add to the routing table.

Notes:

- You can define up to 20 sites for each network skillset. However, calls are only queued to three sites at a time.
- To replace one site with another, you must first delete the original site and then add the new site.

To delete a site from the routing table

1. In the Network Skillsets box, click the network skillset for which you want to change the routing table.
2. In the Selected Sites box, click the site that you want to delete.
3. Click the < button.

   Result: The site is removed from the list in the routing table, and appears in the list of Available Sites.

   Note: If the list of selected sites is empty, then calls for the skillset are not routed to remote sites after the assignment is run.

To move a site in the routing table

1. In the Network Skillsets box, click the network skillset for which you want to change the routing table.
2. In the Selected Sites box, click the site that you want to move.
3. If you want to move the site up in the routing table, then click the up arrow. If you want to move the site down in the routing table, then click the down arrow.

To save a routing table assignment

1. Click Save.

   Result: You are returned to the Sites window.
2. To return to the SMI window, choose File → Close.

Running an assignment immediately

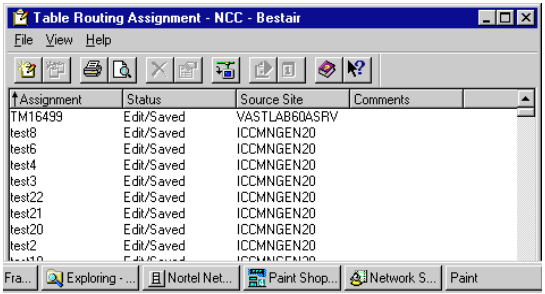
Introduction

Follow this procedure to run an assignment immediately. When an assignment runs, it modifies the routing tables for the site. The changes to the routing tables remain in effect until you run another assignment or change them manually.

To run an assignment

1 From the SMI window, choose Network Administration → Table Routing Assignments.

Result: The Table Routing Assignment window appears.



2 Select the Table Routing Assignment you want to run.

3 Choose File → Run Now.

Result: The routing tables for the site are changed. Network calls are routed based on the routing tables defined in the assignment.

4 To return to the SMI window, choose File → Close.

Note: If you run an assignment immediately, its status continues to indicate the assignment is Edit/Saved. If you schedule an assignment to run at a specified time, then after the assignment runs, its status is updated to RAN OK.

Scheduling an assignment

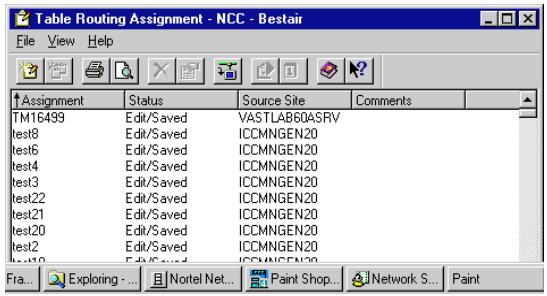
Introduction

Follow this procedure to schedule an assignment to run at a specified time (for example, after regular business hours).

To schedule an assignment

1 From the SMI window, choose Network Administration → Table Routing Assignments.

Result: The Table Routing Assignment window appears.



2 Select the Table Routing Assignment you want to schedule.

3 Choose File → Edit Schedule.

Result: The Schedule property sheet appears.

4 Enter information into the following boxes:

Schedule Selection: The time period for which you want to schedule the assignment. For example, you can run an assignment at one-hour intervals, starting at 8:00 a.m. and ending at 5:00 p.m.

Schedule Date: The day, date, and month (as applicable) you want to run the assignment.

Start: The time on the selected day that you want to run the assignment. Enter 8:00 a.m. in this box.

End: For assignments run at intervals (specified in the Interval box). The time you want the assignment to stop running. Enter 5:00 p.m. in this box.

Interval: The frequency, in 15-minute increments, with which you want the assignment to run between the start and end times. To run an assignment at one-hour intervals, enter 60 in this box.

Extension: The amount of time the system should wait after a system interruption before abandoning the assignment. If recovery takes place before the Extension time expires, then the assignment runs.

5 To return to the SMI window, choose File → Close.

Deleting an assignment

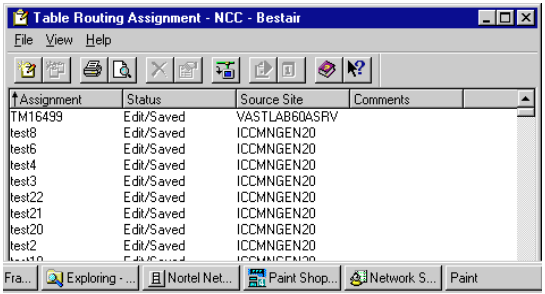
Prerequisite

Ensure that the assignment you want to delete is not scheduled.

To delete an assignment

1 From the SMI window, choose Network Administration → Table Routing Assignments.

Result: The Table Routing Assignment window appears.



2 Select the Table Routing Assignment you want to delete.

3 Choose File → Delete.

4 Click Yes to confirm that you want to delete the site.

Result: The site is removed from the list in the Sites window.

5 To return to the SMI window, choose File → Close.

Section D: Configuring historical statistics collection

In this section

Overview of historical statistics collection

Introduction

You can choose how long to store network call-by-call statistics at the NCC. Your configuration determines

- how long network call-by-call statistics reports can be generated

  For example, if you store network call-by-call statistics for two days, you cannot generate a network call-by-call report for three days ago.
- the amount of disk space required on the NCC

Network call-by-call statistics

Network call-by-call statistics are statistics that record everything that happens to a call that is routed to the network. For example, network call-by-call statistics record

- calls abandoned at the destination
- wait time at the destination
- calls answered at the destination

Collection of network call-by-call statistics

At each site in the network, the administrator can choose the applications for which network call-by-call statistics are collected. For example, the administrator at BestAir Toronto can choose to collect statistics for the Master_Script application. If the administrator chooses this option, all other sites in the network begin collecting network call-by-call information for all calls networked in from Toronto by that application.

Note: Sites begin collecting statistics as soon as the Toronto server notifies them that network call-by-call statistics collection has been enabled. It can take several minutes for this information to be propagated to all servers in the network.

Storage of network call-by-call statistics

The servers accumulate the statistics and send them to the NCC every 15 minutes, using the CLAN. The NCC stores the statistics for a configurable period.

Note: If the NCC is not accessible, network call-by-call data is stored at the source server until the NCC becomes available again. If the source server runs out of disk space before the NCC becomes available, it begins overwriting the oldest network call-by-call data files with the new one.

Configuring historical statistics collection

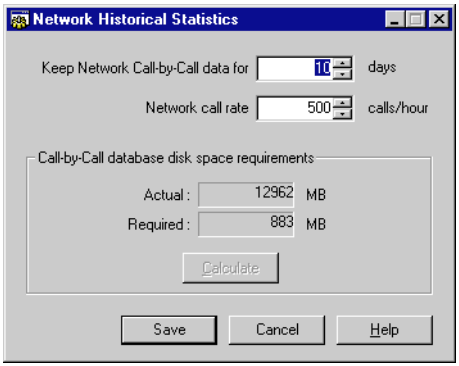
Purpose

Follow this procedure to specify how long network call-by-call statistics are stored on the NCC.

To configure historical statistics collection on the NCC

1 From the SMI window on the NCC, choose Reports and Displays → Statistics Configuration → Network Historical Statistics.

Result: The Network Historical Statistics property page appears.



2 In the Keep Network Call-by-Call data for box, specify the number of days you want to store call-by-call statistics on the NCC.

ATTENTION

This value should match the value configured in the Historical Statistics Configuration on each server.

For example, consider what happens if you retain network call-by-call statistics for three days, but you retain call-by-call statistics for two days at each site. When you generate a network call-by-call report for three days ago, the report contains information about events occurring at the destination site, but it does not contain information about events occurring at the source site.

3 In the Network call rate box, estimate the average number of calls per hour that you anticipate.

4 Click Calculate to calculate the disk space required by the selected configuration.

5 Click Save to save the change.

Note: If the calculated disk space required is greater than the disk space available (as reported in the Actual box), then you cannot save the configuration. You must reduce the call-by-call interval or the estimated number of calls per hour until the calculated database size is acceptable.

Chapter 5

Administering servers

In this chapter

Overview

Introduction

To set up NSBR on your Symposium Call Center Server network, you must configure each of the servers in your network. At each server, you configure

- a network CDN on which incoming network calls are received
- parameters for communication with every other server on the network
- properties for network skillsets

After you configure your servers, monitor them regularly to make sure that they are communicating properly.

Configuring a network CDN

Introduction

On each server in the network, you must configure the CDN on which incoming network calls are received. You must configure a single network CDN, but you can configure multiple network CDNs.

ATTENTION

The network CDN should be used for incoming network calls only. To check whether local calls are arriving on a network CDN, use the Network Call intrinsic. Then give the local call a special treatment, such as a RAN route that gives the number to dial for local calls. For more information, refer to the *Scripting Guide*.

Using multiple network CDNs

You might want to configure multiple network CDNs for the following reasons:

- to enable agents to identify, from the phoneset display, the source site

  For example, if all calls from Boston come in on the network CDN 555-7777, then when this number appears in the phoneset display, the agent knows that the call was sent from Boston. This information can help the agent determine how to respond to the caller. For information on configuring phoneset displays, see the *Administrator's Guide*.
- to generate CDN statistics on a per-site basis

  You can use network reports to view which source sites are networking calls in to your site.
- to set up different treatments for calls from different source sites

  For example, you can give different RAN messages to callers from different source sites.

To use multiple network CDNs, you must

- configure a CDN for each server from which you receive calls
- configure each server to route calls to a different network CDN

Example of using multiple network CDNs

The administrator at BestAir Toronto wanted to provide agents with information on where a call is arriving from, before they answer calls. To do so, the administrator performed the following tasks:

- defined two network CDNs: BOSTON and SF (for calls from Boston and San Francisco, respectively)
- configured agent phoneset displays to show the name of the CDN on which the call arrives
- informed the administrators at the Boston and San Francisco sites of the unique network CDNs (dialable DNs) they must each use to route network calls to Toronto

Therefore, when a call routed from the Boston site is presented to an agent at Toronto, the agent phoneset display contains “BOSTON.” Because of this configuration, the agent knows the incoming call is a network call, originating in Boston, and this information can help the agent respond to the call appropriately.

Before you begin

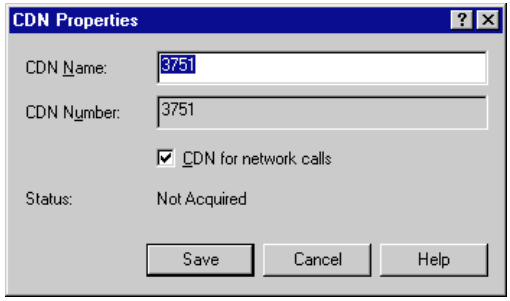
Configure the CDNs on the switch. At the switch, each CDN is configured like a local CDN; there are no special requirements for network CDNs. For information on configuring a CDN on the switch, see the *Symposium, M1, and Voice Processing Guide*.

To configure a network CDN

1 From the SMI window, choose Switch Administration → CDNs.

2 Select a network CDN and click the Properties button.

Result: The CDN Properties dialog box appears.



3 Enter information into the following boxes:

CDN Name: The name of the CDN, as it appears in the CDNs window and on reports.

CDN Number: The CDN number, as configured on the switch. Ensure that this number matches the CDN number configured on the switch. This is the dialable DN that other sites must use to send network calls to your site. You can set up a separate network CDN for each site you might receive calls from, if you want to recognize where incoming network calls are arriving from.

4 Click **CDN for network calls**.

5 Click Save.

6 To acquire the new CDN, select it from the CDNs window and choose File → Acquire.

Configuring communication parameters

Introduction

You must configure the following network communication parameters on each server in the network:

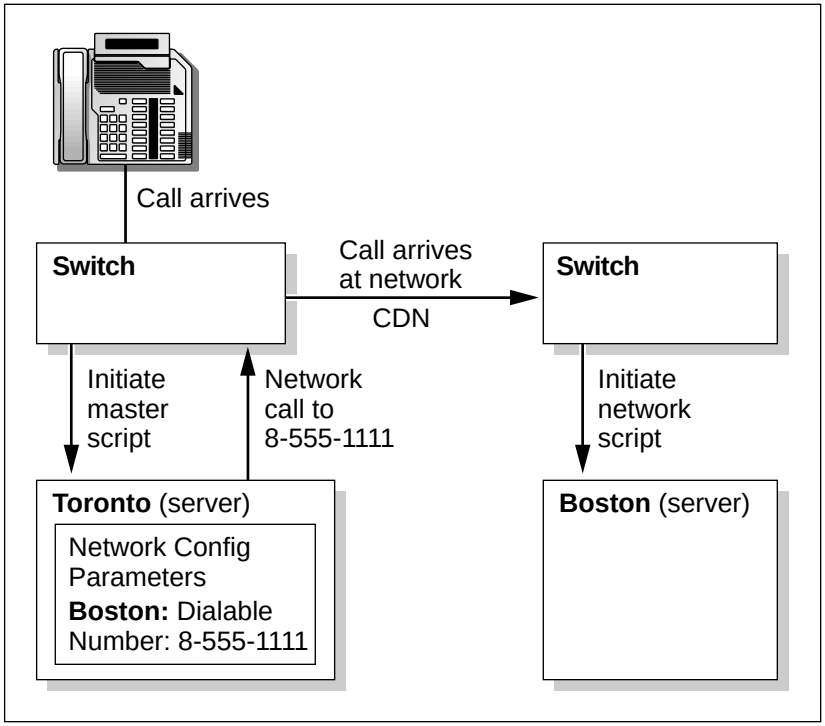
- the DN (network CDN) that your switch dials to route a call to that site
- how many times your server tries to queue calls to the site after a route attempt fails, and the number of seconds between retries
- the amount of time an agent at the site is reserved to answer a call routed from your server

Dialable DN

When you configure the connection to a site, you specify the number that your switch dials to reach the network CDN. The network CDN is the CDN on which the remote site receives incoming network calls. This CDN must be configured as a network CDN on the remote server.

For example, on the Toronto server, the Dialable DN for Boston is 8-555-1111 (see the following illustration).

Note: The number you enter must be the number configured in the CDNs window on the remote server, with any prefixes required by your dialing plan.

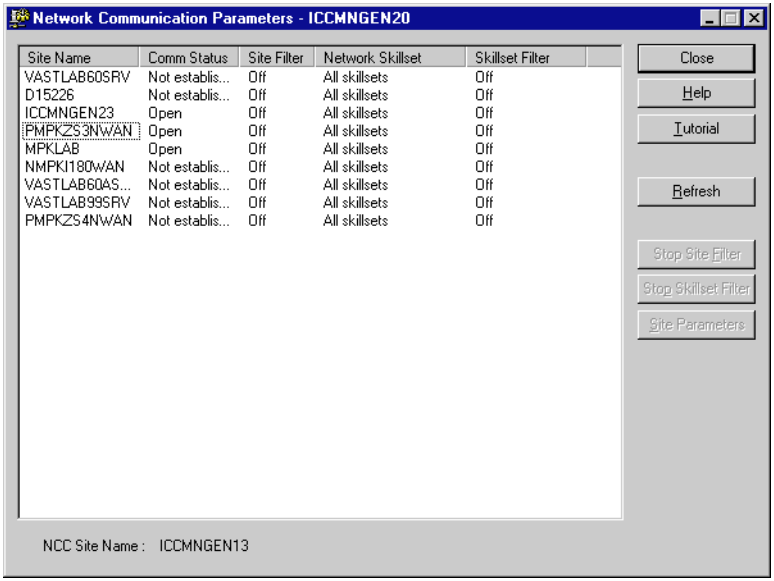


1. A call arrives at the Toronto switch and is passed to the Toronto server.
2. The Toronto server initiates the Master_Script.
3. Based on logic in the script, the server instructs the switch to route the call to Boston.
4. The server passes the DN for Boston to the switch.
5. The switch transfers the call to this number.
6. The call arrives on a network CDN at Boston.
7. The call is passed to the server.
8. The Boston server initiates the Network_Script.

To configure communication parameters

1 From the SMI window, choose Network Administration → Network Communication Parameters.

Result: The Network Communication Parameters dialog box appears.

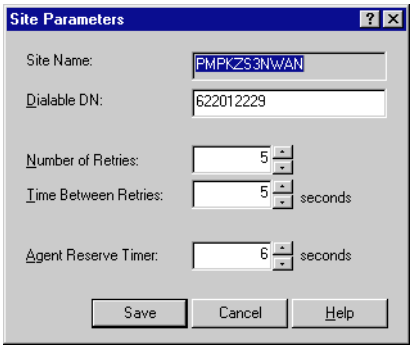


This dialog box lists the remote sites in your network, and their statuses. For more information, see “Monitoring and stopping filtering” on page 92.

2 Select a site for which you want to configure communication parameters.

3 Click Site Parameters.

Result: The Site Parameters dialog box appears.



4 Make the desired changes to the following boxes:

Dialable DN: The number that your switch dials to reach the network CDN at the remote site. It must include any prefixes required by the dialing plan configured on the switch.

Tip: Enter the number in the format used in your NACD Routing Table.

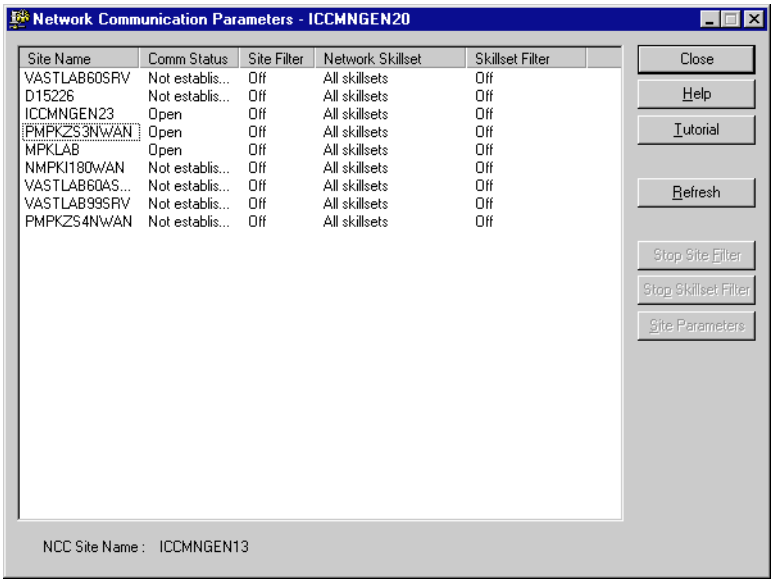
Number of Retries: The number of times that your server attempts to route a call to a reserved agent at this site before filtering the site out of the routing table. For more information, see “Retries and filtering” on page 12.

Time Between Retries: The time that elapses before the server attempts to queue a call to this site after a route attempt fails (for example, if all trunks are busy). For more information, see “Retries and filtering” on page 12.

Agent Reserve Timer: The number of seconds an agent at this site is reserved when your site attempts to send a call. If the source site cannot cancel the agent reservation, then it expires after this period.

5 Click Save.

Result: You return to the Network Communication Parameters dialog box.



6 Repeat steps 2 to 5 for each site you want to configure.

7 Click Close.

Configuring network skillset properties

Introduction

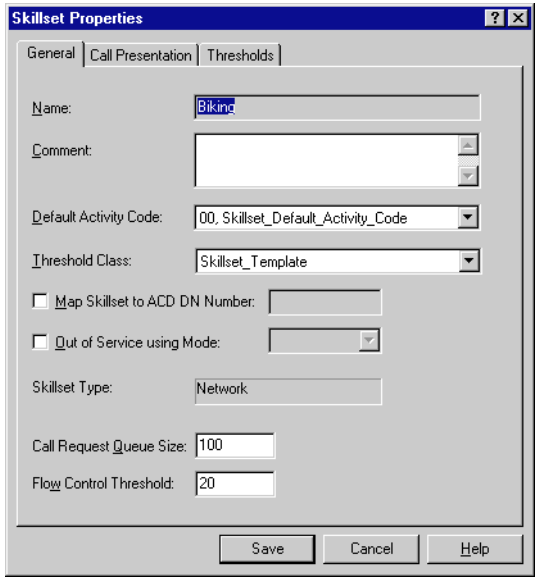
You can configure the following properties for each network skillset:

- the maximum number of calls that can be queued for the skillset at this server
- the number by which queued calls must decrease before filtering is stopped

To configure a network skillset

1. From the SMI window, choose Call Flow Administration → Skillsets.
2. Select a network skillset and click Properties.

   Result: The Skillset Properties property sheet appears.



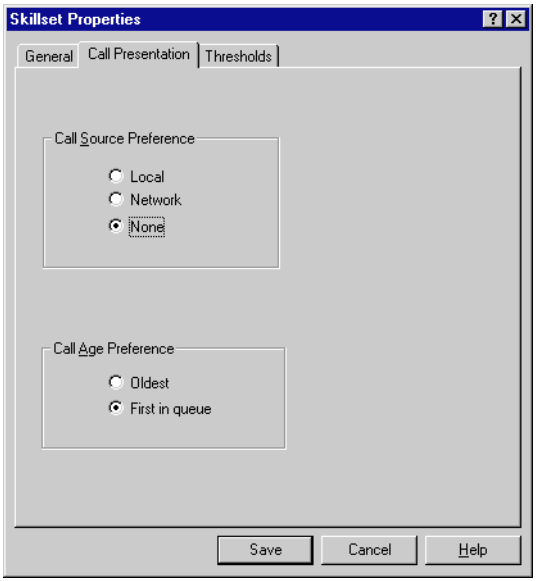
3 Make the desired changes to the following boxes:

Call Request Queue Size: The maximum number of calls that can be queued for this skillset on your server. For example, if this value is set to 100, then up to 100 calls can be queued for this skillset at your server. When 100 calls are queued, your server is filtered from the routing tables for this skillset at every other site that attempts to queue a call for this skillset to your site.

Flow Control Threshold: The number by which queued calls for this skillset must decrease before filtering of your server stops. For example, if this value is set to 20, then filtering of this network skillset at your site ceases only when the number of queued calls falls to 80.

4 Click the Call Presentation tab.

Result: The Call Presentation property page appears.



5 For Call Source Preference, choose whether to give priority to Network calls or Local calls, or whether to give both equal priority (by selecting None).

For example, two calls are queued to the Bookings skillset at BestAir Toronto. One call has been networked from the Boston server. The other is a local call. The administrator at BestAir Toronto can use the Call Source Preference setting to choose whether network or local calls for the Bookings skillset have priority, or if they have equal priority. If neither call has priority, the server uses the priority assigned in the script. If both calls have the same priority in the script, the server uses the call age.

6 Click Save.

Monitoring and stopping filtering

Introduction

Your server automatically filters sites from its routing tables to prevent calls from being routed to them. It also stops filtering automatically, after a configurable amount of time (Filter Timer).

You can monitor the sites and skillsets that your server is currently filtering. If the problem that led to the filtering is resolved, you can stop filtering manually rather than waiting for the filter timer to elapse.

Site filtering

Your server filters a site from the routing tables for *all* its skillsets when the site is unreachable. A site can be unreachable for the following reasons:

- NACD is not installed at the destination site, or an NACD error has occurred.
- The dialable DN configured for the destination site is incorrect.
- The CDN is not configured correctly at the destination site (either on the server or on the switch).
- The server is not running at the destination site.
- The D-channel is down.
- All trunks are busy at the source or destination.
- The trunk is blocked.

When a site is filtered from the routing table, your server does not attempt to queue calls to that site.

Example

1. BestAir Toronto receives a call for the Bookings skillset.
2. Toronto queues the call to BestAir Boston.
3. Boston reserves an agent and notifies Toronto.

4. Toronto routes the call to Boston.
5. The route attempt fails. In the next five seconds (the Retry Timer period), Toronto receives several more calls for skillsets at Boston, but it does not attempt to queue these calls to Boston. (However, the server does not cancel existing requests to Boston.)
6. After five seconds elapses, Toronto receives another call for Bookings.
7. Toronto attempts to queue this call to Boston. Again, an agent is reserved, but the call cannot be routed.
8. After one more failed attempt (the Number of Retries is set to 3), Toronto cancels all requests to Boston and filters Boston from *all* of its routing tables for one hour (the Filter Timer period). That is, not only does it filter Boston from the routing table for Bookings, but it also filters Boston from the routing tables for all of the other network skillsets.
9. After the hour elapses, BestAir Toronto again begins attempting to queue calls to Boston.

Network skillset filtering

Network skillset filtering occurs

- if a network skillset at a remote site is too busy (that is, if the number of queued calls for that skillset exceeds the maximum value, as configured at each server)
- if the network skillset is out of service

When either of these conditions occurs, your server filters that site from the routing table for that network skillset. While the network skillset is filtered, your server does not attempt to queue calls for that skillset to the remote site. (However, your server continues to queue calls to other skillsets at that site.)

Example

1. The administrator of the Boston server has set the Maximum Call Request Queue Size for the Bookings skillset to 25. Currently, 25 calls are queued to the Bookings skillset at the Boston server.
2. The Toronto server receives a call for the Bookings skillset, and attempts to queue it to Boston.

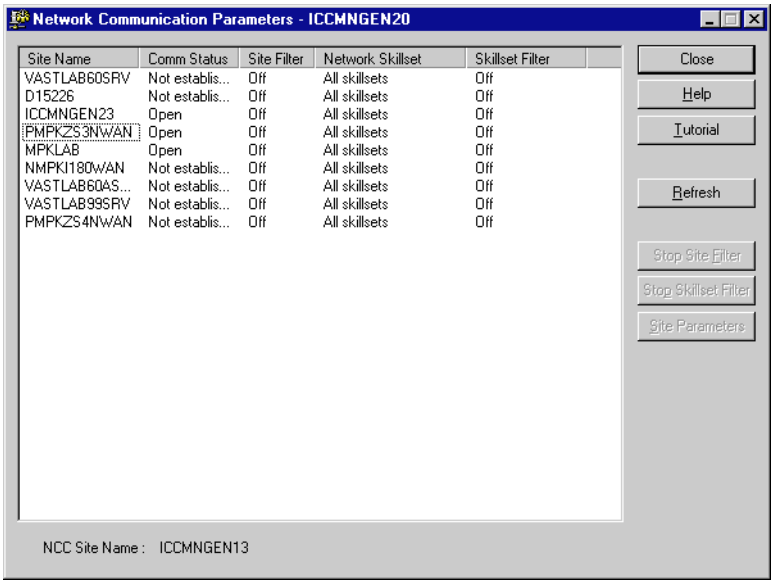
3. Boston rejects the call, and Toronto filters Boston from the routing table for the Bookings skillset.

4. Filtering stops when the number of queued calls drops by 5 to 20 calls in queue (since 5 is the configured value in the Flow Control Threshold by the Boston administrator).

To view filter status for remote sites and network skillsets

1 From the SMI window, choose Network Administration → Network Communication Parameters.

Result: The Network Communication Parameters dialog box appears.



This dialog box contains the following information:

Column	Description
Comm Status	The status of communications with the site. Valid values include ■ Open (communication is occurring) ■ Not Established (the server is attempting to open communications) ■ Closed (a communication problem has occurred)
Site Filter	Whether the site is currently being filtered and, if so, the reason. Valid values include ■ Off (that is, the site is not being filtered) ■ Server communication failure ■ Dialable DN has not been configured correctly ■ NACD package restriction at destination ■ Maximum number of retries reached ■ Trunk allocation problem – server suspended ■ Incompatible server versions
Network Skillset	Lists the names of skillsets being filtered, or contains All Skillsets if the site is being filtered.
Skillset Filter	If a list of skillsets is displayed in the Network Skillset column, this column indicates whether each network skillset is being filtered and, if so, the reason. Valid values include ■ Off (that is, the skillset is not being filtered) ■ Max Request ■ Out of Service ■ Unknown Skillset

2 The Site Filter column indicates the filtering status for the site. The Skillset Filter column indicates the filtering status for each skillset specified in the Network Skillset column. To stop filtering, continue with the following procedure.

Note: If the site filter is not Off, then check the Event Browser to find the errors that led to filtering.

3 To refresh the display, click Refresh.

4 To exit from the Network Communication Parameters dialog box, click Close.

Manually stopping filtering for remote sites and network skillsets

Example

1. The supervisor of the Bookings skillset at the Boston site schedules an emergency meeting from 10:00 a.m. to 10:30 a.m. for all local agents in that skillset.
2. All agents log off the skillset to go to the meeting. As a result, the skillset goes out of service. When other sites attempt to queue calls to this skillset, they discover that it is unavailable, and they filter it out of their routing tables.
3. After the meeting, the Boston agents log back into the skillset. The skillset is back in service, but other sites continue to filter Boston until their filter timer expires.
4. The administrator of the Boston server sends an e-mail to the other site administrators, indicating that they can stop filtering for Boston. Site administrators who want to begin routing calls to Boston can stop filtering manually.

To stop filtering manually for remote sites and network skillsets

1 On the Network Communication Parameters dialog box, select the site for which you want to stop filtering.

2 Click Stop Filtering.

3 To refresh the display, click Refresh.

4 To exit from the Network Communication Parameters dialog box, click Close.

Chapter 6

Troubleshooting

In this chapter

If your site is not routing or receiving calls

Verifying the connection to the NCC

If your server is not able to route calls to or receive calls from other sites, verify that your site is communicating with the NCC.

To verify the connection

1. Ensure that the versions of Symposium Call Center Server installed at your site, at the NCC, and at other participating sites are compatible. Check the release notes for the server and NCC software to determine what version is in use.
2. At the NCC, start the Nbconfig utility (for more information, refer to “Configuring the communications database” on page 22). Check the Address and Site tables to make sure that they are configured correctly:
   - The IP addresses are unique and correct.
   - The site name in the Site table matches the name of the site in the Sites window on the NCC.
3. At the server, start the Nbconfig utility, and verify that the Address and Site tables match those on the NCC.
4. At the server, check the Network Communication Parameters (see “Configuring communication parameters” on page 84), to make sure that the NCC Site is correct.
5. At the server, open a DOS window and type the following command:

   ping *nnn.nnn.nnn.nnn*

   where *nnn.nnn.nnn.nnn* is the IP address of the NCC. If the NCC cannot be found, then use the **tracert** command to find out where the error is occurring.
6. Restart the NCC.
7. If the problem continues, contact your Nortel Networks customer support representative.

Resetting all site and address settings

If the contents of the Address table and Site table are incorrect, you might need to shut down all Symposium services and reset all site and address settings.

To reset all site and address settings

1. Shut down all Symposium Call Center Server services (from the Windows Start menu, choose Programs → Symposium Call Center Server → Shutdown).
2. From the DOS prompt, type **CD\Nortel\iccm\bin**.
3. From the bin directory, run nicomsetup to reset all communication settings.

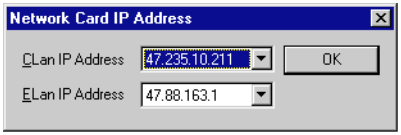
   Note: For more information on nicomsetup, refer to the *Software Installation and Upgrade Guide*.
4. Restart Symposium Call Center Server.

To change the CLAN or ELAN IP address

1. Log on to Windows NT as NGenSys.
2. Close the SMonW window.
3. Shut down all Symposium Call Center Server services (from the Windows Start menu, choose Programs → Symposium Call Center Server → Shutdown).
4. Change the CLAN or ELAN IP address using the Network control panel. When the program prompts you to restart the server, click No.
5. Change the CLAN or ELAN IP address using the Configuration utility (Nbconfig) as follows:
   a. From the Windows Start menu, choose Run.
   b. Type **nbconfig -admin**.

      Result: The Edit button on the Local Machine Settings tab is enabled.
   c. Select the network card for which you want to change the IP address.
   d. Click Edit.

      Result: The Network Card IP Address window appears to allow you to select another CLAN or ELAN IP address from the drop-down list.



e. Make the changes and click OK.

6 Run nicomsetup.

a. From the Windows Start menu, choose Programs → Command Prompt.

b. Change to the drive on which the Symposium Call Center Server is installed. For example, type **D:** and press Enter.

c. Type **CD\Nortel\ICCM\bin** and press Enter.

d. Type **nicomsetup** and press Enter.

Result: The IP address change is completed.

7 Restart the server by choosing, from the Windows Start menu, Shutdown.

8 If the server is in a networking environment, continue with one of the following procedures to update the NCC.

Changing the IP address of a server in a networking environment (M1 only)

1 At the NCC, log on as NGenSys.

2 From the Windows Start menu, choose Run.

3 Type **nbconfig -admin**.

4 Click the Site Table tab.

5 Select the server for which you changed the IP address, and click Remove.

6 Click Add and add the server.

7 Click Verify.

8 Click Apply to start synchronization.

Changing the IP address of the NCC (M1 only)

1 At the NCC, log on as NGenSys.

2 From the Windows Start menu, choose Run.

3 Type **nbconfig -admin**.

4 Click the Site Table tab.

5 Click Add and add all servers.

6 Click Verify.

7 Click Apply to start synchronization.

To change the server site name

1 Log on to Windows NT as Administrator.

2 Close the SMonW window.

3 Shut down all Symposium Call Center Server services (from the Windows Start menu, choose Programs → Symposium Call Center Server → Shutdown).

4 Run nicomsetup.

   a. From the Windows Start menu, choose Programs → Command Prompt.

   b. Change to the drive on which the Symposium Call Center Server is installed. For example, type **D:** and press Enter.

   c. Type **CD\Nortel\ICCM\bin** and press Enter.

   d. Type **nicomsetup** and press Enter.

5 Change the server site name using the Configuration utility (Nbconfig) as follows:

   a. From the Windows Start menu, choose Run.

   b. Type **nbconfig -admin**.

   Result: The Edit button on the Local Machine Settings tab is enabled.

   c. Make the desired changes, and click OK.

6 If the server is in a networking environment, continue with one of the following procedures to update the NCC.

Changing the site name of a server in a networking environment (M1 only)

1. At the NCC, log on as Administrator, and from the Windows Start menu, choose Run.
2. Type **nbconfig -admin**.
3. Click the Site Table tab.
4. Select the server for which you changed the site name, and click Remove.
5. Click Add and add the server.
6. Click Verify.
7. Click Apply to start synchronization.

Changing the site name of the NCC (M1 only)

1. At the NCC, log on as Administrator, and from the Windows Start menu, choose Run.
2. Type **nbconfig -admin**.
3. Click the Site Table tab.
4. Click Add and add all servers.
5. Click Verify.
6. Click Apply to start synchronization.

Problems with network skillsets

Introduction

This section describes problems that can occur with network skillsets, and explains how to troubleshoot them.

Network skillsets are not being distributed from the NCC to all sites

This problem can occur for the following reasons:

- **An existing entity has the same name**—If a server has a variable named "Sales," then a network skillset named "Sales" cannot be added. Contact your network administrator to resolve naming problems. The *Scripting Guide* recommends that skillsets include the characters "_sk" to identify them as skillsets and to avoid potential conflicts with other entities. For more information, see the *Scripting Guide*.
- **The configured limit for number of skillsets was reached**—Check the Historical Statistics Configuration Parameters on the Symposium Call Center Server client at the site. If you change the configured limit of skillsets, you must synchronize the site information from the NCC client. For more information on Historical Statistics Configuration, see the *Administrator's Guide*.

Calls for a network skillset are not being sent to other sites

This problem can occur if your scripts have not been updated to route calls to the network skillset. When an administrator at the NCC defines a network skillset at the NCC, the NCC propagates the new skillset to all servers in the network.

However, scripts are not automatically updated to route calls to the network. Calls continue to be queued to the local copy of the network skillset. To route calls to other sites, you must add the script command Queue To Network Skillset. For more information on using network skillsets in scripts, see the *Scripting Guide*.

This error can also occur under the following circumstances:

- The NACD package is not enabled on the switch at the source site. Install and configure NACD, following the instructions in the *Symposium, M1, and Voice Processing Guide*.
- A non-ISDN trunk is encountered.
- The Dialable DN (set in the Network Communication Parameters window) for the destination is not set to the correct network CDN.
- A call is abandoned.

Filtering is preventing calls from being sent to a destination site

A destination site can be filtered under the following circumstances:

- The NACD package is not enabled on the switch at the source or at the destination site. Install and configure NACD following the instructions in the *Symposium, M1, and Voice Processing Guide*.
- The Dialable DN for the destination site is configured incorrectly (see "Configuring communication parameters" on page 84).
- The network CDN is not configured correctly at the destination site. The network CDN must be configured on the switch as a CDN (see the *Symposium, M1, and Voice Processing Guide*), and it must be configured on the server (see "Configuring a network CDN" on page 81).
- The server at the destination site is not active. Ask the contact person at the remote site whether the server is up. If the destination site is in Night Service mode, then the site is filtered until an agent with the skillset logs on and the queue at the destination site becomes active.
- The number of failed attempts set in the Number of Retries box for a skillset has been reached. When this happens, the source site removes the destination site from *all* its routing tables for time configured in the Filter Timer period (minimum of 5 minutes, maximum of 12 hours). After the Filter Timer period, the destination site is no longer filtered. If the problem is resolved before the Filter Timer period is reached, you can manually remove the site from filtering (see "Manually stopping filtering for remote sites and network skillsets" on page 96).

Problems collecting call-by-call statistics

The site server does not have enough memory

The Historical Statistics Configuration calculation is necessary to determine if you have adequate storage space to save the amount of call-by-call data you choose. The server checks every 15 minutes, when historical data is stored and consolidated, to ensure you have adequate storage space.

Call-by-call data is purged whenever data reaches the age you configured (in the Historical Statistics Configuration window) or when disk space becomes insufficient. This enables more recent call-by-call data to be stored, but can result in less long-term data being stored than you selected, if you have less disk space than calculated. An event is logged in Fault Management if this occurs. An event is also logged in Fault Management if network call-by-call data transfer to the NCC takes longer than 15 minutes.

Note: Even if you have purchased the call-by-call option, your call-by-call keycode is disabled if your server has less than 2 Gbytes of memory during server installation. Contact your Nortel Networks customer support representative if you cannot choose to store call-by-call statistics.

The call-by-call information has not been sent to the NCC

If you have recently changed your call-by-call storage options, the change does not take effect until the information is sent to the NCC and propagated to all sites. This can take several minutes after making a change.

Note: If the NCC goes down for an extended period, pegging is done at each local server that is storing network call-by-call data. This can use a substantial amount of resources at each local server.

Times on reports are incorrect

Introduction

This section refers to errors that can occur when the times set at multiple servers are not synchronized.

When working with multiple sites, remember the following details:

- Each Symposium Call Center Server must be restarted after a time zone change.
- The administrator should regularly check the time set at each M1 switch and ensure that these are synchronized. For more information, refer to the *Symposium, M1, and Voice Processing Guide.*

Times at different sites are not synchronized

Whether sites are in the same time zone or in multiple time zones, if the times at various M1 switches are not synchronized, the Network Call-by-Call Report does not display accurate information. In some cases, for example, destination events might appear to occur before source events.

You must regularly check the time set at each M1 switch to ensure exact synchronization.

To view or edit the date and time at an M1 switch

1. Log on to the M1 console.
2. Type **ld 2** and press Enter.
3. Type **ttad** to display the date and time.
4. If you need to change the date or time, type **stad** and enter the correct date and time in the following format: DD-MM-YYYY 00:00.

   Note: Use the 24-hour clock format for the time.
5. Press Enter.
6. Log off the M1 console.

Time zone change is not taking effect

You must restart each Symposium Call Center Server after changing the time zone relative to GMT value.

Network Call-by-Call Report is not capturing correct event times

If calls are being processed across sites while the time zone relative to GMT is being changed, a specific problem can occur affecting the Network Call-by-Call Report.

If the time zone relative to GMT value at the source site changes immediately after a call is networked out to a destination site, and before the call is answered at the destination site, the event information uses two different times. The destination site's call-by-call data uses the new time of the source site, while the source site's call-by-call data uses the old time of the source site.

To run a Network Call-by-Call report to capture accurate source and destination information regarding this call, you must run two reports—one using the old source site time and one using the new source site time.

Glossary

A

accelerator key

A key on a phoneset that an agent can use to place a call quickly. When an agent presses an accelerator key, the system places the call to the configured number associated with the key. For example, if an agent presses the Emergency key, the system places a call to the agent's supervisor.

access class

A collection of access levels that defines the actions a member of the access class can perform within the system. For example, a member of the Administrator access class might be given a collection of Read/Write access levels.

access level

A level of access or permission given to a particular user for a particular application or function. For example, a user might be given View Only access to historical reports.

ACCESS link

A communication channel between the Symposium Call Center Server and Meridian Mail.

ACCESS voice port

A Meridian Mail voice port that is controlled by the ACCESS link.

ACD call

See Automatic call distribution call.

ACD-DN

See Automatic call distribution directory number.

ACD routing table

See Automatic call distribution routing table.

acquired resource
A resource configured on the switch that is under the control of the Symposium Call Center Server. Resources must be configured with matching values on both the switch and the Symposium Call Center Server.

activated script
A script that is processing calls or is ready to process calls. Before you can activate a script, you must first validate it.

activity code
A number that an agent enters on his or her phoneset during a call. Activity codes provide a way of tracking the time agents spend on various types of incoming calls. For example, the activity code 720 might be used to track sales calls. Agents can then enter 720 on their phonesets during sales calls, and this information can be generated in an Activity Code report.

administrator
A user who is responsible for maintaining the Symposium Call Center Server.

agent
A user who is responsible for handling customer calls.

agent login ID
A unique identification number assigned to a particular agent. The agent uses this number when logging in. The agent ID is not associated with any particular phoneset.

agent to skillset assignment
A matrix that, when you run it, sets the priority of one or more agents for a skillset. Agent to skillset assignments can be scheduled.

agent to supervisor assignment
A definition that, when you run it, assigns one or more agents to specific supervisors. Agent to supervisor assignments can be scheduled.

application
1. A logical entity that represents a Symposium Call Center Server script for reporting purposes. The master script and each primary script have an associated application. The application has the same name as the script it represents. 2. A program that runs on a computer.

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.

associated supervisor
A supervisor who is available for an agent if the agent's reporting supervisor is unavailable. *See also* reporting supervisor.

Automatic call distribution call
A call to an ACD-DN. ACD calls are distributed to agents in an ACD group based on the ACD routing table on the switch.

Automatic call distribution directory number
DNs associated with an ACD group. Calls made to these DNs are distributed to agents belonging to the group, based on the ACD routing table on the switch.

Automatic call distribution routing table
A table configured on the switch that contains a list of ACD-DNs used to define routes for incoming calls. This ensures that incoming calls not processed by Symposium Call Center Server will be queued to ACD groups and handled by available agents.

C

call age
The amount of time a call was waiting in the system before being answered by an agent.

call destination
The site to which an outgoing network call is sent. *See also* call source.

call intrinsic

A script element that stores call-related information assigned when a call enters the Symposium Call Center Server. *See also* intrinsic, skillset intrinsic, time intrinsic, and traffic intrinsic.

call presentation class

A collection of preferences that determines how calls are presented to an agent. A call presentation class specifies whether a break time between calls is allowed, whether an agent can put DN calls on hold for incoming ACD calls, and whether an agent phoneset displays that the agent is reserved for a network call.

call priority

A numerical value assigned in a script that defines the relative importance of a call. If two calls are in the queue when an agent becomes available, and one call is queued with a higher priority than the other, the agent receives the higher priority call first. *See also* skillset priority.

call source

The site from which an incoming network call originates. *See also* call destination.

call treatment

A script element that enables you to provide handling to a call while it is waiting to be answered by a call center agent. For example, a caller can hear a recorded announcement or music while waiting for an agent.

call variable

A script variable that applies to a specific call. A call variable follows the call through the system and is passed from one script to another with the call. *See also* global variable, variable.

Calling Line Identification

This is an optional service that identifies the telephone number of the caller. This information can then be used to route the call to the appropriate agent or skillset. The CLID can also be displayed on an agent’s phoneset.

CDN

See controlled directory number.

CLAN
See Customer local area network.

CLID
See Calling Line Identification.

client
The part of Symposium Call Center Server that runs on a personal computer or workstation and relies on the server to perform some operations. *See also* server.

command
A building block used with expressions, variables, and intrinsics to create scripts. Commands perform distinct functions, such as routing a call to a specific destination, playing music to a caller, or disconnecting a caller.

controlled directory number
A special directory number that allows calls arriving at the switch to be queued when the CDN is controlled by an application such as Symposium Call Center Server. When a call arrives at this number, the switch notifies the application and waits for routing instructions, which are performed by scripts in Symposium Call Center Server.

Customer local area network
The LAN to which your corporate services and resources connect. The Symposium Call Center Server and client both connect to the CLAN. Third-party applications that interface with the server also connect to this LAN.

D

DBMS
Database Management System

deactivated script
A script that does not process any new calls. If a script is in use when it is deactivated, calls continue to be processed by the script until they are completed.

default activity code
The activity code that is assigned to a call if an agent does not enter an activity code manually, or when an agent presses the activity code button twice on his or her phoneset. Each skillset has a defined default activity code.

default skillset
The skillset to which calls are queued if they have not been queued to a skillset or a specific agent by the end of a script.

desktop user
A configured user who can log on to the Symposium Call Center Server from a client PC.

destination site
The site to which an outgoing network call is sent. *See also* source site.

DHCP
See dynamic host configuration protocol.

Dial-Up Networking
See Remote Access Services.

Dialed Number Identification Service
An optional service that allows Symposium Call Center Server to identify the phone number dialed by the incoming caller.

An agent can receive calls from customers calling in on different DNISs and, if the DNIS is displayed on the phoneset, can prepare a response according to the DNIS.

directory number
The number that identifies a phoneset on a switch. The directory number (DN) can be a local extension (local DN), a public network telephone number, or an automatic call distribution directory number (ACD-DN).

directory number call
A call that is presented to the DN key on an agent’s phoneset.

display threshold
A threshold used in real-time displays to highlight a value below or above the normal range.

DN
See directory number.

DN call
See directory number call.

DNIS
See Dialed Number Identification Service.

dynamic host configuration protocol
A protocol for dynamically assigning 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

ELAN
See embedded local area network.

embedded local area network
A dedicated Ethernet TCP/IP LAN that connects the Symposium Call Center Server and the switch.

Emergency key
A key on an agent's phoneset that, when pressed by an agent, automatically calls his or her supervisor to notify the supervisor of a problem with a caller.

event

1. An occurrence or action on the Symposium Call Center Server, such as the sending or receiving of a message, the opening or closing of an application, or the reporting of an error. Some events are for information only, while others can indicate a problem. Events are categorized by severity: information, minor, major, and critical. 2. An action generated by a script command, such as queuing a call to a skillset or playing music.

expression

A building block used in scripts to test for conditions, perform calculations, or compare values within scripts. *See also* logical expression, mathematical expression, and relational expression.

F

filter timer

The length of time after the system unsuccessfully attempts to route calls to a destination site, before that site is filtered out of a routing table.

first-level threshold

The value that represents the lowest value of the normal range for a statistic in a threshold class. The system tracks how often the value for the statistic falls outside this value.

G

global settings

Settings that apply to all skillsets or IVR ACD-DNs that are configured on your system.

global variable

A variable that contains values that can be used by any script on the system. The value of a global variable can only be changed in the Script Variable Properties sheet. It cannot be changed in a script. *See also* call variable, variable.

I

Incalls key

The key on an agent phoneset to which incoming ACD and Symposium Call Center Server calls are presented.

Interactive voice response

An application that allows telephone callers to interact with a host computer using prerecorded messages and prompts.

Interactive voice response 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.

Interactive voice response event

A voice port login or logout. An IVR event is pegged in the database when a call acquires or de-acquires a voice port.

Internet Protocol 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. For customers using NSBR, site IP addresses must be unique and correct. The format of an IP address is a 32-bit numeric address written as four values separated by periods. Each value can be 0–255. For example, 1.160.10.240 could be an IP address.

intrinsic

A word or phrase used in a script to gain access to system information about skillsets, agents, time, and call traffic that can then be used in formulas and decision-making statements. *See also* call intrinsic, skillset intrinsic, time intrinsic, and traffic intrinsic.

IP address

See Internet Protocol address.

IVR

See Interactive voice response.

IVR ACD-DN

See Interactive voice response ACD-DN.

IVR event

See Interactive voice response event.

IVR port
See voice port.

L

LAN
See Local area network.

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.

local call
A call that originates at the local site. *See also* network call.

local skillset
A skillset that can be used at the local site only. *See also* network skillset, skillset.

logical expression
A symbol used in scripts to test for different conditions. Logical expressions are AND, OR, and NOT. *See also* expression, mathematical expression, and relational expression.

M

M1
Meridian 1 switch

master script
The first script executed when a call arrives at the Symposium Call Center Server. A default master script is provided with Symposium Call Center Server, but it can be customized by an authorized user. It can be deactivated but not deleted. *See also* network script, primary script, script, and secondary script.

mathematical expression
An expression used in scripts to add, subtract, multiply, and divide values. Mathematical expressions are addition (+), subtraction (-), division (/), and multiplication (*). *See also* expression, logical expression, and relational expression.

Meridian Link Services
A communications facility that provides an interface between the switch and a third-party host application.

Meridian Mail
A Nortel Networks product that provides voice messaging and other voice and fax services.

Meridian MAX
A Nortel Networks product that provides call processing based on ACD routing.

MLS
See Meridian Link Services.

MM
See Meridian Mail.

music route
A resource installed on the switch that provides music to callers while they wait for an agent.

N

NACD call
A call that arrives at the server from a network ACD-DN.

NCC
See Network Control Center.

network call
A call that originates at another site in the network. *See also* local call.

Network Control Center

The server on a Symposium Call Center Server system where NSBR is configured and where communication between servers is managed.

network script

The script that is executed to handle error conditions for Symposium Call Center Server calls forwarded from one site to another, for customers using NSBR. The network script is a system-defined script provided with Symposium Call Center Server, but it can be customized by an authorized user. It can be deactivated but not deleted. *See also* master script, primary script, script, and secondary script.

Network Skill-Based Routing

An optional feature with Symposium Call Center Server that provides skill-based routing to multiple networked sites.

network skillset

A skillset that is common to every site on the network. Network skillsets must be created at the Network Control Center (NCC).

night mode

A skillset state in which the server does not queue incoming calls to the skillset, and in which all queued calls are given night treatment. A skillset goes into night mode automatically when the last agent logs off, or the administrator can put it into night mode manually. *See also* out-of-service mode, transition mode.

NPA

See Number Plan Area.

NSBR

See Network Skill-Based Routing.

Number Plan Area

Area code

O

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 application program interface (API) standard.

out-of-service mode
A skillset state in which the skillset does not take calls. A skillset is out of service if there are no agents logged on or if the supervisor puts the skillset into out-of-service mode manually. *See also* night mode, transition mode.

out-of-service skillset
A skillset that is not taking any new calls. While a skillset is out of service, incoming calls cannot be queued to the skillset. *See also* local skillset, network skillset, and skillset.

P

PBX
See private branch exchange.

pegging
The action of incrementing statistical counters to track and report on system events.

pegging threshold
A threshold used to define a cut-off value for statistics such as short call and service level. Pegging thresholds are used in reports.

PEP
See Performance Enhancement Package.

Performance Enhancement Package

A Symposium Call Center Server supplementary software application that enhances the functionality of previously released software by improving performance, adding functionality, or correcting a problem discovered since the original release.

personal directory number

A DN on which an agent can be reached directly, usually for private calls.

phoneset

The physical device, connected to the switch, to which calls are presented. Each agent and supervisor must have a phoneset.

phoneset display

The display area on an agent's phoneset where information about incoming calls can be communicated.

Position ID

A unique identifier for a phoneset, used by the switch to route calls to the phoneset.

primary script

A script that is executed or referenced by the master script. A primary script can route calls to skillsets, or it can transfer routing control to a secondary script. *See also* master script, network script, script, and secondary script.

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.

R

RAN

recorded announcement

RAN route

See recorded announcement route.

RAS

See Remote Access Services.

recorded announcement route

A resource installed on the switch that offers a recorded announcement to callers.

relational expression

An expression used in scripts to test for different conditions. Relational expressions are less than (<), greater than (>), less than or equal to (< =), greater than or equal to (> =), and not equal to (< >). *See also* expression, logical expression, and mathematical expression.

Remote Access Services

A feature built into Windows NT and Windows 95 that enables users to log on to an NT-based LAN using a modem, X.25 connection, or WAN link. This feature is also known as Dial-Up Networking.

reporting supervisor

The supervisor who has primary responsibility for an agent. When an agent presses the Emergency key on the phoneset, the emergency call is presented to the agent's reporting supervisor. *See also* associated supervisor.

round robin routing table

A routing table that queues the first call to the first three sites in the routing table, then the second three sites, then the third three sites, and so on, until an agent is reserved at one of the sites. *See also* sequential routing table.

route

A group of trunks. Each trunk carries either incoming or outgoing calls to the switch. *See also* music route, RAN route.

routing table

A table that defines how calls are routed to the sites on the network. *See also* round robin routing table, sequential routing table.

S

sample script
A script that is installed with the Symposium Call Center Server client. Sample scripts are stored as text files in a special folder on the client. The contents of these scripts can be imported or copied into user scripts to create scripts for typical call center scenarios.

SCM
See Service Control Manager.

script
A set of instructions that relates to a particular type of call, caller, or set of conditions, such as time of day or day of week. *See also* master script, network script, primary script, and secondary script.

script variable
See variable.

second-level threshold
The value used in display thresholds that represents the highest value of the normal range for a given statistic. The system tracks how often the value for the statistic falls outside this value.

secondary script
Any script (other than a master, network, or primary script) that is referenced from a primary script or any other secondary script. There is no pegging of statistics for actions occurring during a secondary script. *See also* master script, network script, primary script, and script.

sequential routing table
A routing table method that always queues a call to the first three active sites in the routing table. *See also* round robin routing table.

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. The Symposium Call Center Server is used to configure the operations of the call center. *See also* client.

service
A process that adheres to a Windows NT structure and requirements. A service provides system functionality.

Service Control Manager
A Windows NT process that manages the different services on the PC.

service level
The percentage of incoming calls answered within a configured number of seconds.

service level threshold
A parameter that defines the number of seconds within which incoming calls should be answered.

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.

site
1. A system using Symposium Call Center Server that can be accessed using SMI. 2. A system using Symposium Call Center Server and participating in Network Skill-Based Routing.

skillset
A group of capabilities or knowledge required to answer a specific type of call. *See also* local skillset, network skillset.

skillset intrinsic
A script element that inserts information about a skillset in a script. Skillset intrinsics return values such as skillsets, integers, and agent IDs. These values are then used in queuing commands. *See also* call intrinsic, intrinsic, time intrinsic, and traffic intrinsic.

skillset priority
An attribute of a skillset assignment that determines the order in which calls from different skillsets are presented to an agent. When an agent becomes available, calls might be waiting for several of the skillsets to which the agent belongs. The server presents the call queued for the skillset for which the agent has the highest priority.

source site
The site from which an incoming network call originates. *See also* destination site.

standby
In skillset assignments, a property that grants an agent membership in a skillset, but makes the agent inactive for that skillset.

supervisor
A user who manages a group of agents. *See also* associated supervisor, reporting supervisor.

switch
The hardware that receives incoming calls and routes them to their destination.

switch resource
A device that is configured on the switch. For example, a CDN is configured on the switch, and then is used as a resource with Symposium Call Center Server. *See also* acquired resource.

Symposium Call Center Server call
A call to a CDN that is controlled by the Symposium Call Center Server. The call is presented to the Incalls key on an agent's phoneset.

system-defined scripts
The Master_Script and the Network_Script (if NSBR is enabled). These scripts can be customized or deactivated by a user, but cannot be deleted. These scripts are the first scripts executed for every local or network call arriving at the call center.

T

target site
See destination site.

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 perform functions traditionally performed by telephone equipment.

threshold
A value for a statistic at which system handling of the statistic changes.

threshold class
A set of options that specifies how statistics are treated in reports and real-time displays. *See also* display threshold, pegging threshold.

time intrinsic
A script element that stores information about system time, including time of day, day of week, and week of year. *See also* call intrinsic, intrinsic, skillset intrinsic, and traffic intrinsic.

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.

traffic intrinsic
An intrinsic that inserts information about system-level traffic in a script. *See also* call intrinsic, intrinsic, skillset intrinsic, and time intrinsic.

transition mode
A skillset state in which the server presents already queued calls to a skillset. New calls queued to the skillset are given out-of-service treatment. *See also* night mode, out-of-service mode.

Transport Control Protocol/Internet Protocol

The communication protocol used to connect devices on the Internet. TCP/IP is the standard protocol for transmitting data over networks.

treatment

See call treatment.

trunk

A communications link between a PBX and the public central office, or between PBXs. Various trunk types provide services such as Direct Inward Dialing (DID trunks), ISDN, and Central Office connectivity.

U

user-created script

A script that is created by an authorized user on the Symposium Call Center Server system. Primary and secondary scripts are user-created scripts.

user-defined script

A script that is modified by an authorized user on the Symposium Call Center Server system.

utility

A program that performs a specific task, usually related to managing system resources. Operating systems contain a number of utilities for managing disk drives, printers, and other devices.

V

validation

The process of checking a script to ensure that all the syntax and semantics are correct. A script must be validated before it can be activated.

variable

A placeholder for values calculated within a script, such as CLID. Variables are defined in the Script Variable Properties sheet and can be used in multiple scripts to determine treatment and routing of calls entering the Symposium Call Center Server. *See also* call variable, global variable.

voice port

A connection from a telephony port on the switch to a port on the IVR system.

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.

workload scenarios

Sets of configuration values defined for typical patterns of system operations. Five typical workload scenarios (entry, small, medium, large, and upper end) are used in the Capacity Assessment Tool for capacity analysis for the Symposium Call Center Server.

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NORTEL NETWORKS™

How the world shares ideas.

Reader Response Form

Nortel Networks Symposium Call Center Server Product release 3.0
Network Control Center Administrator's Guide

Tell us about yourself:

Name: _____

Company: _____

Address: _____

_____

Occupation: _____ **Phone:** _____

1. What is your level of experience with this product?

   ☐ New user ☐ Intermediate ☐ Experienced ☐ Programmer

2. How do you use this book?

   ☐ Learning ☐ Procedural ☐ Reference ☐ Problem solving

3. Did this book meet your needs?

   ☐ Yes ☐ No

   If you answered No to this question, please answer the following questions.

4. What chapters, sections, or procedures did you find hard to understand?

   _____

   _____

   _____

5. What information (if any) was missing from this book?

   _____

   _____

   _____

6. How could we improve this book?

   _____

   _____

   _____

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Reader Response Form

Reader Response Form

Nortel Networks Symposium Call Center Server

Network Control Center Administrator's Guide

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