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Nortel Networks Symposium Call Center Web Client

Planning, Installation, and Administration Guide

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Nortel Networks Symposium Call Center Web Client Planning, Installation, and Administration Guide

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Contents

1	Getting started	11
	Overview	12
	About Symposium Web Client	14
	Skills you need	21
	Related documents	22
	System requirements	23
	Partitions and communication ports	32
	Worksheets and checklists	34
2	Preparing Symposium Call Center Server	51
	Overview	52
	Modifying Real-time Statistics Multicast settings	53
	Testing the Real-time Statistics Multicast service	62
3	Installing and configuring application server software	65
	Overview	66
	Section A: Windows 2000 server	67
	Overview	68
	Windows 2000 Server installation and configuration	69
	Section B: Installing third-party software on the application server	73
	Overview	74
	Installing Microsoft Active Directory	75
	Installing Sybase Open Client on the application server	88
	Section C: Installing Symposium Web Client on the application server	91
	Overview	92
	Installing Symposium Web Client on the application server	94
	Installing or repairing individual Symposium Web Client components on the application server	110
	Uninstalling application server software	116
	Upgrading Symposium Web Client	120
	Multiple-language support	123

	Backing up and restoring user data	125
	Section D: Configuring the application server	131
	Overview	132
	Configuring Real-Time Reporting	133
	Configuring Emergency Help	137
	Configuring Historical Reporting	139
	Configuring Scripting	146
	Configuring Agent Desktop Displays	157
4	Installing and configuring client software	161
	Installing third-party software on a client	162
	Installing and configuring Agent Desktop Displays on a client PC	172
5	Using Symposium Web Client	181
	Overview	182
	Section A: Getting started with Symposium Web Client	185
	Overview	186
	High-level task flow	187
	Starting Symposium Web Client	189
	Section B: Configuration	193
	Overview	194
	Adding and configuring call center servers	196
	Configuring resources	199
	Section C: Contact Center Management	207
	Overview	208
	Working in assignment mode	210
	Working in detail mode	216
	Adding Symposium Call Center Server users	218
	Section D: Access and Partition Management	223
	Overview	224
	Creating report groups	228
	Creating partitions	231
	Creating access classes	238
	Adding and configuring users	245
	Supervisor/reporting agents feature	247
	Section E: Audit Trail	261
	Overview	262

Monitored resources	264
Section F: Scripting	265
Overview	266
Viewing scripts	267
Creating and editing scripts	268
Validating your script	269
Displaying script variables and parameters	270
Viewing, editing, and assigning application threshold classes	272
Working with sample scripts	274
Checking variables for referencing scripts	277
6 Troubleshooting	279
Technical support	280
Client PC	282
Application server	287
A IP Multicast Networking	297
Overview	298
Multicast sending and receiving	299
Implementing IP multicasting for Symposium Web Client	309
B Web site types	313
Determining your web site type	314
Glossary	317
Index	339

Chapter 1

Getting started

In this chapter

Overview	12
About Symposium Web Client	14
Skills you need	21
Related documents	22
System requirements	23
Partitions and communication ports	32
Worksheets and checklists	34

Overview

Introduction

The *Symposium Call Center Web Client Planning, Installation, and Administration Guide* provides step-by-step instructions for the procedures you must perform to complete the installation and administration of Symposium Web Client:

- installing Windows 2000 Server with Service Pack 1 (or higher) with Terminal Services, and Internet Information Services (IIS), on the Symposium Web Client application server
- installing Microsoft Active Directory
- configuring Terminal Services, Terminal Services Licensing, and Simple Mail Transfer Protocol for Symposium Web Client
- installing Symposium Web Client on the application server
- installing Agent Desktop Displays on a client
- installing third-party applications
- uninstalling Symposium Web Client or one of its components on the application server

Who should read this guide

This guide is intended for

- Nortel Networks installers and distributors who are responsible for installing Symposium Web Client
- administrators who are responsible for monitoring and maintaining the application server

Access rights

This guide assumes that you have the privileges and access rights required to perform the procedures in this guide.

ATTENTION

When you install Symposium Web Client, the Web Client setup wizard creates a Windows 2000 Server user called *iceadmin* and assigns full administrative access rights to this user. If you delete this user or modify the user's password in Windows 2000 Server, Symposium Web Client does not function properly.

Key codes

Nortel Networks supplies a special code called a key code that you need to enter during the installation. This key code gives you access to all of the Symposium Web Client components. If you only have the Symposium Configuration Tool, you are given a different key code that gives you access only to the Configuration component of Symposium Web Client.

About Symposium Web Client

What is Symposium Web Client?

Symposium Web Client is a browser-based tool for call center administrators and supervisors. You can use Symposium Web Client to manage and configure a call center and its users, define access to data, and view real-time and historical reports.

Symposium Web Client provides these functions with the following components:

- Contact Center Management
- Access and Partition Management
- Configuration
- Scripting
- Real-Time Reporting
- Historical Reporting
- Emergency Help
- Audit Trail
- Agent Desktop Displays

Symposium Web Client components

Contact Center Management

Use Contact Center Management to add, edit, view, or delete

- users (agents, supervisors, or supervisor/agents) on a server in Symposium Call Center Server
- agent to supervisor assignments
- agent to skillset assignments

Access and Partition Management

Use Access and Partition Management to add, edit, view, or delete

- Symposium Web Client users
- partitions
- access classes
- report groups for Historical Reporting
- basic access rights to different Symposium Web Client components

You can also assign access classes, partitions, and supervisor/reporting agent combinations to Web Client users.

When you add a user in Access and Partition Management, you add a Web Client user. Web Client users can log on to the application server and use the Symposium Web Client components to which they have been given access. To add a user (agent, supervisor, or supervisor/agent) to Symposium Call Center Server, you must use the Contact Center Management component, or use the spreadsheet in the Configuration component.

Note: Some Symposium Call Center Server users (supervisors and supervisor/agents) may also be Web Client users and be given a Web Client user ID and password to access the application server; however, many Symposium Call Center Server users will never use Symposium Web Client.

Configuration

The Configuration component assists you in configuring and administering Symposium Call Center Server. You can also download a preformatted Excel spreadsheet from the Configuration component to upload and download Symposium Call Center Server configuration and user information.

Note: You can use the M1 Data Extraction Tool to extract configuration data from the M1, and then upload that data to Symposium Call Center Server by using Symposium Web Client's Configuration spreadsheets. For more information, refer to the *Symposium Call Center Web Client Data Extraction Tool User's Guide for the Meridian 1*. The M1 Data Extraction Tool is intended for use with the M1 switch only; it may not support the Meridian 1 Internet Enabled switch.

The Configuration component of Symposium Web Client is also available separately as a standalone application called the Symposium Configuration Tool.

Note: If you are on site configuring a customer's call center, you can upload your Symposium Configuration spreadsheets using the Configuration component of the customer's Symposium Web Client application.

Scripting

Symposium Call Center Server uses scripts to route calls. With the Scripting component, you can create and modify call routing instructions for your call center using the following components:

- a Script Manager
- a Script Editor
- a Script Variable creator
- a Script Command Reference

You can also apply thresholds to your applications, and edit application threshold classes using the Scripting component.

The Scripting component also includes a validation tool that checks your scripts for errors before they run.

Real-Time Reporting

Use the Real-Time Reporting component to view the dynamics of call activity. Real-time displays are available for both networked and single sites. The following standard Real-Time Reporting displays are available in Symposium Web Client:

- six nodal real-time displays for single Symposium Call Center Server sites
- three network-consolidated real-time displays for a network of Symposium Call Center Server sites

Historical Reporting

Use Historical Reporting to gather information about the past performance of the call center. You can generate two types of historical reports:

- Summarized historical reports contain totals for information gathered during a specific interval of time (for example, daily totals or weekly totals).
- Event/detail reports are detailed reports for specific events that have occurred in the call center (for example, an Agent Activity report).

Emergency Help

When a supervisor opens the Emergency Help panel, the system notifies the supervisor automatically whenever an agent presses the Emergency key on his or her phoneset. Agents can press the Emergency key when they require assistance from the supervisor (for example, if the caller is abusive). The Emergency Help panel shows information about the agent, including the agent's name, location, and time when the Emergency key was pressed.

Audit Trail

Audit Trail records the actions performed in the Configuration component, and identifies the user ID of the person who made the changes.

Symposium Agent Desktop Displays

Symposium Agent Desktop Displays provides real-time skillset monitoring to agents. Agent Desktop Displays must be configured on the application server, and on client PCs that use the tool.

The network components of Symposium Web Client

Symposium Web Client uses a three-tiered Internet-based architecture with functionality distributed among various components. The major components of Symposium Web Client include the following:

Symposium Web Client client PCs—Employ a web-based browser to interface with the application server. They are used to administer the server and to monitor call center performance.

Symposium Web Client application server—The middle layer that communicates with Symposium Call Center Server and makes information available to the client PCs.

Symposium Call Center Server—Responsible for functions such as the logic for call processing, call treatment, call handling, call presentation, and the accumulation of data into historical and real-time databases.

Typically, in a single node environment, one Symposium Web Client application server is paired with the server in Symposium Call Center Server; however, more than one application server can be paired with the server in Symposium Call Center Server (you may want to implement more than one application server for load balancing, redundancy, and so on). If more than one application server is used, each application server must be configured as a standalone application server (for example, different send multicast IP addresses). Each Symposium Web Client application server acts as the consolidation point for real-time data from its paired server in Symposium Call Center Server.

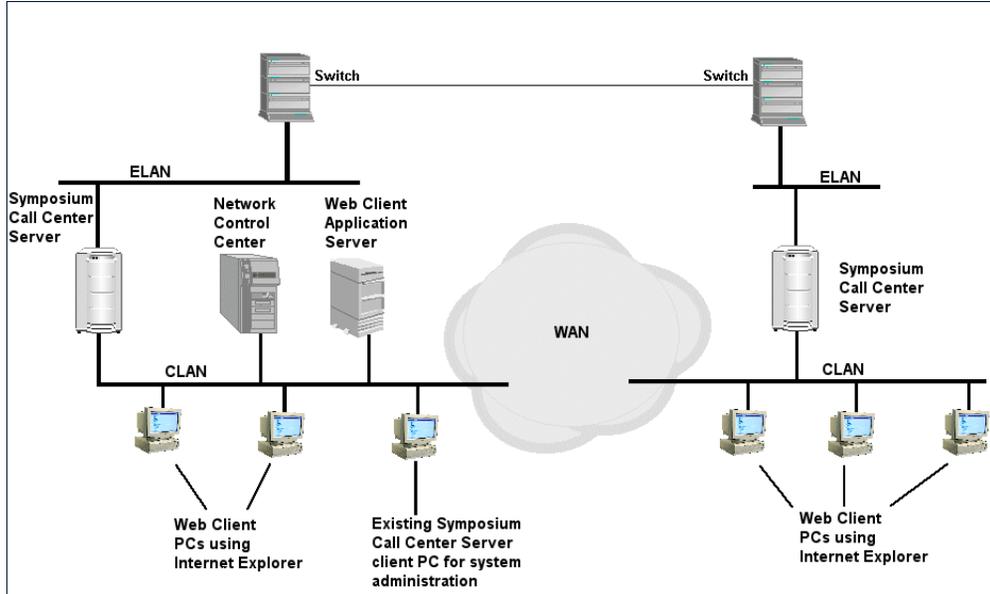
In a networked environment, one Symposium Web Client application server can be paired with each server in Symposium Call Center Server, or one Symposium Web Client application server can be used across the entire network of servers in Symposium Call Center Server.

If you have more than three servers in your Symposium Call Center Server network, you may want to consider implementing a second Symposium Web Client application server for better response times.

ATTENTION

If you have to perform a Symposium Call Center Server platform migration, after the migration is finished, Nortel Networks recommends that you restart each Symposium Web Client application server that connects to the affected server in Symposium Call Center Server.

Network architecture overview



Switches supported by Symposium Web Client

Symposium Web Client supports the following switches:

- Meridian 1 (M1) nodal and networking
- Succession Communication Server for Enterprise 1000 (CSE 1000) nodal and networking
- Digital Multiplex Switch (DMS)
- Meridian Stored Logic 100 switch (MSL-100)

Notes:

- In all instances in this guide, the M1 switch refers to both the Meridian 1 switch and Meridian 1 Internet Enabled switch, unless otherwise noted.
- The current release of the CSE 1000 switch only supports networking over ISDN trunks.

User types in Symposium Web Client

It is important to understand the difference between the Symposium Web Client user and the Symposium Call Center Server user. You create each user in different Symposium Web Client components.

User type	User definition	Created in
Symposium Call Center Server user	agents, supervisors, supervisor/agents	Contact Center Management or Configuration
Web Client user	anyone who logs on to the application server and monitors the performance and activities of Symposium Call Center Server	Access and Partition Management
Windows 2000 user	administrators	Windows 2000

Skills you need

Installation and configuration knowledge

You must have knowledge of the following tasks to install Symposium Web Client:

- Microsoft Windows 2000 Server with Service Pack 1 (or higher) installation, configuration, and maintenance
- Microsoft Active Directory installation, configuration, and maintenance
- Microsoft Internet Explorer 5.5 with Service Pack 1 (or higher) installation and configuration

Timing

The Windows 2000 Server installation and Symposium Web Client installation take approximately 3 hours to complete. This does not include the time that is required for pre-installation planning, switch configuration, or post-installation setup and configuration, such as adding agents.

Related documents

Introduction

This section lists the documents in which you can find additional information about Symposium Web Client and Symposium Call Center Server.

If you need information about	Refer to
<ul style="list-style-type: none"> ■ Real-Time Reporting, Historical Reporting, Contact Center Management, and Emergency Help 	<p><i>Symposium Call Center Web Client Supervisor's Reference Guide</i></p>
<ul style="list-style-type: none"> ■ the M1 Data Extraction Tool 	<p><i>Symposium Call Center Web Client Data Extraction Tool User's Guide for the Meridian 1</i></p>
<ul style="list-style-type: none"> ■ detailed historical reports 	<p><i>Symposium Call Center Server Historical Reporting and Data Dictionary</i></p>
<ul style="list-style-type: none"> ■ information about scripting 	<p><i>Symposium Call Center Server Scripting Guide</i></p>
<ul style="list-style-type: none"> ■ administering the Network Control Center 	<p><i>Symposium Call Center Server Network Control Center Administrator's Guide</i></p>

Note: If you are using the Symposium Configuration Tool only, then refer to Chapter 3, “Installing and configuring application server software,” and Chapter 5, “Using Symposium Web Client,” for information about the Configuration component.

System requirements

Introduction

Symposium Web Client can reside on any server on which Windows 2000 Server with Service Pack 1 (or higher) is installed. From this point on, this document refers to this server as the application server. To access Symposium Web Client on the application server, the client PC must have Internet Explorer 5.5 Service Pack 1 (or higher) installed.

Note: All system requirements and installation procedures apply to Symposium Web Client and the Symposium Configuration Tool.

Application server hardware requirements

Symposium Web Client runs on a dedicated computer on which Microsoft Windows 2000 Server (with Service Pack 1 or later) is installed. Nortel Networks does not supply this server; it can be customer- or distributor-supplied. Specific hardware requirements depend on your call center size. For expected performance measurements and related system requirements, see “Application server performance requirements” on page 27.

Symposium Web Client follows Microsoft’s “Designed for Windows 2000 Application Specification” standard. Since Symposium Web Client is a mission-critical application, Nortel Networks does not recommend sharing the Symposium Web Client application server with other “application” class software applications, which generally require a certain amount of system resources. Note that running additional software (for example, virus scan software) may place an additional load on the Symposium Web Client application server. Therefore, you should set all utility tools to run on the application server during off-peak hours. In addition, all utilities installed on the application server must be included in Microsoft’s Compatibility List for Windows 2000 Server. You can view this list at <http://www.microsoft.com/windows2000/server/howtobuy/upgrading/compat/default.asp>.

Notes:

- Nortel Networks does not provide support on the configuration of anti-virus software. Direct all your questions or problems on anti-virus software to the appropriate vendor.
- The above recommendations are intended as guidelines only, and do not constitute a guarantee of compatibility.
- If you raise performance or functionality issues to Nortel Networks support personnel, as part of the fault diagnosis process, the support technician may ask you to remove all third-party software from the application server.

Application server software requirements

- Microsoft Windows 2000 Server Service Pack 1 (or higher) with Internet Information Services (IIS), Simple Mail Transfer Protocol (SMTP), Terminal Services, and Terminal Services Licensing (you require Terminal Services for the Script Editor portion of the Scripting component)

Note: Terminal Services can communicate with the Terminal Services License Server (Terminal Services Licensing) only if they are in the same domain. Therefore, Nortel Networks recommends that you install both on the application server because it is a domain controller.

- For more information about Windows 2000 requirements, see the “Windows 2000 Server installation checklist” on page 44.

ATTENTION

As of the date of publication, the following information on Client Access Licensing was available from Microsoft. Consult Microsoft for the latest information. Nortel Networks does not accept any liability for end-user compliance with Microsoft licensing agreements. This information has been provided for your convenience.

- You must purchase from Microsoft both a Terminal Services Client Access License and a Windows 2000 Server Client Access License for *each* client PC running on Windows 95, 98, NT, or ME that will be accessing the Script Manager portion of the Scripting component.
 - Client PCs running on Windows 2000 only require a Windows 2000 Server Client Access License; they do not require a separate Terminal Services Client Access License.
 - Nortel Networks does not provide these Client Access Licenses.
 - The Windows 2000 Server Client Access Licenses do not float (that is, they are specific to the client PCs for which they have been purchased).
 - If the client PC is accessing only Script Variables or Application Thresholds, then these licenses are not required.
- Microsoft Active Directory
 - Sybase Open Client v.12 (required for the Historical Reporting and Contact Center Management components; supplied by Nortel Networks)
 - Microsoft Internet Explorer 5.5 Service Pack 1 or higher (if the application server is used as both a client and server)

Note: To install, uninstall, and configure Symposium Web Client, you must have administrator privileges on the application server.

Client hardware requirements

Note: The following client requirements also apply to PCs running Agent Desktop Displays:

- Pentium II 300 or better
- 20 Mbytes of available hard disk space for the Agent Desktop Displays component
- a minimum of 64 Mbytes of RAM
- a minimum 800 x 600 pixel resolution monitor (1024 x 768 pixel resolution is recommended for optimal display quality)
- a serial port (if connection of the M1 Data Extraction Tool to the M1 switch using a serial port is required)

Note: If you are going to connect to the M1 switch, you can use either the client PC or the application server as long as the system you use has a serial port. The M1 Data Extraction Tool is intended for use with the M1 switch only; it may not support the Meridian 1 Internet Enabled switch.

The Pentium II 300 MHz configuration should be adequate for normal operation in small call centers (less than 50 agents). For more intensive activity and larger call centers, a faster processor and additional RAM, or both, improves performance. For larger call centers and higher levels of activity, the minimum platform should be scaled up accordingly.

Client software requirements

Note: The following client requirements also apply to PCs running Agent Desktop Displays:

- Windows 95 or 98, Windows NT Service Pack 6a or greater, Windows 2000 Professional, Windows 2000 Server, or Windows Millennium Edition (ME)
- Microsoft Internet Explorer 5.5 web browser with Service Pack 1 (or higher)
- Excel 2000 Service Release 1a (required for the Configuration component only)

- Microsoft Data Access Components (MDAC) v.2.5 (required for Windows 95, Windows 98, and Windows NT4 Workstation clients; included on the Symposium Web Client installation CD)
- Windows Socket 2 (required for Windows 95 clients only; included on the Symposium Web Client installation CD)

Symposium Call Center Server requirements

- Symposium Web Client is compatible with Symposium Call Center Server Release 4.0 (NS040107SU06S) or later. Symposium Web Client is incompatible with previous releases of Symposium Call Center Server.

Application server performance requirements

The call center parameters that are shown in the following table (for example, the total number of active agents) can reside on one server in Symposium Call Center Server, or they can reside across multiple servers in a networked call center. For example, if you have a Pentium IV 1.4 GHz or equivalent, then the recommended load is 1000 agents. In a single node environment, the 1000 agents reside on the single server. In a network consisting of three call center servers, approximately 333 agents (or a similar variation so that the total number of active agents does not exceed 1000) can reside on each server. If any of the parameters exceed the load that is specified in the tables, then Nortel Networks recommends that you use a higher performance platform as the application server, or use more than one application server. For details on application server sizing requirements, see “Application server sizing requirements” on page 29.

Recommendations	for this load
<ul style="list-style-type: none"> ■ Pentium III 733 or better ■ 512 Mbytes of RAM ■ 20 Gbytes of disk space ■ NIC 	<p>Call Center Parameters:</p> <ul style="list-style-type: none"> ■ up to 250 active agents ■ 50 skillsets ■ 50 applications ■ 20 IVR queues ■ 128 routes

Recommendations	for this load
	<p>per Symposium Web Client application server:</p> <ul style="list-style-type: none"> ■ 25 Symposium Web Client users (excluding Agent Desktop Display users) ■ 250 Agent Desktop Display users

Recommendations	for this load
<ul style="list-style-type: none"> ■ Pentium IV 1.4 GHz * ■ 1.0 Gbyte of RAM ■ 40 Gbytes of disk space ■ NIC 	<p>Call Center Parameters:</p> <ul style="list-style-type: none"> ■ 1000 active agents ■ 350 skillsets ■ 500 applications ■ 50 IVR queues ■ 250 routes <p>per Symposium Web Client application server:</p> <ul style="list-style-type: none"> ■ 150 Symposium Web Client users (excluding Agent Desktop Display users) ■ 1000 Agent Desktop Display users

* Pentium IV 1.4 GHz or equivalent (for example, a dual Pentium III with equivalent CPU processing power)

Note: The minimum hard disk space requirements are recommended for the Symposium Web Client application software, Crystal Report templates, historical reports, log files, and exported real-time displays.

Although an Intel Pentium III 733 MHz processor with 512 Mbytes of RAM meets the basic hardware requirements for running Symposium Web Client with the smaller call center configurations, a faster processor and additional RAM, or both, will improve the performance of the system for most operations. The generation of large call-by-call reports can create temporary files of 1 Gbyte or more and can be time consuming. A faster system is highly preferred if the end user is managing a large number of objects (greater than 1000), such as call center agents, or generating large historical or call-by-call reports, or both.

Additional parameters

Refresh rates: The minimum refresh rate on the application server is .5 seconds. You can adjust this rate to achieve optimal balance between latency and CPU consumption.

Historical reports: You can schedule as many historical reports as required; however, only five scheduled reports are processed simultaneously while the others wait in queue.

Application server sizing requirements

The table below provides recommendations for sizing requirements of the application server based on the following typical call center usage patterns:

- the ratio of agents to supervisors does not exceed 10 (10 agents per supervisor)
- CPU utilization does not exceed 70% during peak usage loads (see “CPU utilization on the application server and client PC” on page 29)
- the number of requests from each user to the application server does not exceed 17 per minute

CPU utilization on the application server and client PC

The application server employs an Intel Pentium processor. The minimum recommended processor is the Pentium III with a clock speed of 733 MHz, 512 Mbytes of memory, and a 20-Gbyte hard drive.

For optimal performance, the average CPU utilization on both the application server and the client should not exceed 70% over at least a 15-minute time period. However, it is expected and quite normal for the CPU utilization to exceed the 70% limit (up to 100%) for relatively short periods of time.

You can perform the measures to reduce CPU load:

Application Server

- Reduce RTD refresh rates
- Stagger scheduled historical reports so that they are not scheduled to run at the same time
- Schedule large reports to run at off-peak hours
- Schedule anti-virus scanning to occur at off-peak hours
- Perform backup/restore procedures at off-peak hours

Client PC

- Reduce RTD refresh rates
- Configure the client to display less data by using data partitioning

Maximum number of supported agents across the network	Maximum number of supported Web Client users (excluding ADD users)	Processor
466	47	PIII 733 MHz
472	47	PIII 750 MHz
502	50	PIII 800 MHz
542	54	PIII 866 MHz
586	59	PIII 933 MHz
620	62	PIII 1.0 GHz
785	78	PIV 1.3 GHz

Maximum number of supported agents across the network	Maximum number of supported Web Client users (excluding ADD users)	Processor
917	92	PIV 1.5 GHz
715	72	Dual PIII 733 MHz
725	72	Dual PIII 750 MHz
769	77	Dual PIII 800 MHz
830	83	Dual PIII 866 MHz
895	89	Dual PIII 933 MHz
946	95	Dual PIII 1.0 GHz
1193	119	Dual Xeon 1.4 GHz
1391	139	Dual Xeon 1.5 GHz

Note: If the parameters are exceeded, then you can use more than one application server, and you can split Web Client users across the multiple application servers.

Partitions and communication ports

Introduction

This section provides high-level information on partitions. It also provides TCP/UDP port numbers that are used by Symposium Web Client.

Protecting your data

To protect your data, you can take the following precautions:

- Install Windows 2000 Server and Symposium Web Client on an NT File System (NTFS) partition. File Allocation Table (FAT) partitions do not support security.
- Set up a certificate server through IIS if you are administering the application server from a remote site or a site that is not secured. For more information on setting up a certificate server, consult your Microsoft documentation.

Refer to the “Windows 2000 Server installation checklist” on page 44 for information about installing Windows 2000.

Communication ports

The following table lists the TCP/UDP ports that Symposium Web Client uses with the application server. You can use this information for items such as firewall implementation, or identifying potential port conflicts within the client PC or the application server. To minimize the potential points of failure (in a nodal call center setting), place the server in Symposium Call Center Server and the Symposium Web Client application server on the same subnet.

Port number	Functionality	Port location
■ Port 80	for Internet Explorer's communication	application server
■ Port 3389	for Terminal Services' communication	application server

Port number	Functionality	Port location
■ Port 25 (SMTP)	for the Historical Reporting component to send e-mail notifications when reports are printed and saved	application server
■ Port 8200	for the Emergency Help component	client PC
■ UDP ports 6020, 6030, 6040, 6050, 6060, 6070, 6080, 6090, 6100, 6110, 6120, 6130	for the application server to receive IP multicasting data from Symposium Call Center Server (needed for Real-Time Reporting and Agent Desktop Displays)	application server
■ UDP ports 7020, 7030, 7040, 7050, 7060, 7070, 7080, 7090, 7100, 7110, 7120, 7130	for the application server to send IP multicasting data to client PCs (needed for Real-Time Reporting and Agent Desktop Displays)	client PC

Note: Based on your network configuration and the amount of access to the application server that is required (for example, for print servers and file sharing), you may also need to configure domain trust relationships and firewalls. For more information on this additional configuration, consult the Microsoft guidelines on Windows 2000 networking.

Worksheets and checklists

Introduction

Before installing Windows 2000 Server and Symposium Web Client, Nortel Networks recommends that you complete the “Pre-installation worksheet” on page 35. This worksheet lists tasks and information that you need to complete or gather before the installation.

Also, during the installation, you need to install and configure software in a precise order on the server in Symposium Call Center Server, on the Web Client application server, and on client PCs. Follow the order listed in the “Installation checklist” on page 41 to ensure that Symposium Web Client functions properly upon completion of the installation.

Pre-installation worksheet

	Pre-installation questions	Fill in the required information
1	<p>Computer name that will be assigned to the application server?</p> <p>Note: The computer name can be a maximum of 12 characters only.</p>	
2	IP address for the application server?	
3	Name of the domain for the application server?	
4	Subnet that the application server belongs to?	
5	Default gateway that the application server will use?	
6	Are the unique CLAN IP addresses of each Symposium Call Center Server system registered with Domain Name Services (DNS)?	
7	<p>Is the physical computer name of each Symposium Call Center Server is registered with the DNS server?</p> <p>From the application server, type ping -a CLAN IP address. The system must return the same name that is registered with the DNS server for each Symposium Call Center Server. If the computer names do not match, you must resolve the conflict before proceeding.</p>	
8	IP address for the Preferred DNS server (to enable forward/reverse lookups)?	

	Pre-installation questions	Fill in the required information
9	IP address for the Alternate DNS server?	
10	<p>What is the name and CLAN IP address of</p> <ul style="list-style-type: none"> ■ each Symposium Call Center Server system? ■ Network Control Center (NCC) server? <p>This information must be entered in the HOSTS or LMHOSTS tables if the CLAN IP addresses of each Symposium Call Center Server system are <i>not</i> registered with the DNS. For more information, refer to “Did you configure a DNS server?” on page 293.</p> <p>You also require this information when you first configure your call center using Symposium Web Client.</p>	
11	The number of concurrent connections that will be established between clients and the application server to allow the application server to communicate with other networks/subnetworks?	
12	Is the network connection between the client PCs and the application server multicast-capable?	

	Pre-installation questions	Fill in the required information
13	IP multicast address that Symposium Call Center Server is using to send data to Symposium Web Client? (This IP multicast address will also be used as the application server's receiving IP multicast address.)	
14	The IP multicast address that the application server will use to send data to its clients?	
15	Has Real-time Statistics Multicast (RSM) been enabled on Symposium Call Center Server? For more information, refer to Chapter 2, "Preparing Symposium Call Center Server".	
16	Have you modified the default RSM settings on Symposium Call Center Server? For more information, refer to "Modifying Real-time Statistics Multicast settings" on page 53.	
17	What multicast rate (the default rate is 5 seconds) are you going to use? For more information, refer to "Modifying RSM settings and multicast rates" on page 55.	
18	What is the Time-To-Live setting for RSM? For more information, refer to "Modifying RSM settings and multicast rates" on page 55.	

	Pre-installation questions	Fill in the required information
19	<p>Which real-time statistics are you going to collect?</p> <p>M1/CSE 1000 (skillset, application, agent, nodal, route, IVR)</p> <p>DMS/MSL-100 (skillset, application, agent, nodal)</p> <p>For more information, refer to “Modifying RSM settings and multicast rates” on page 55.</p>	
20	<p>What is the name of your mail server?</p> <p>You must enter this information if you are configuring automatic e-mail notification in the Historical Reporting component. See “Configuring Historical Reporting” on page 139.</p>	
21	<p>Which e-mail address should be used for notification of Non-delivery reports?</p> <p>You must enter this information if you are configuring automatic notification of the Non-Delivery report in Historical Reporting. See “Configuring Historical Reporting” on page 139.</p>	
22	<p>What is the name and IP address of the printer you will be using for Historical Reporting and Scripting? See “To set up a default printer” on page 142.</p>	

	Pre-installation questions	Fill in the required information
23	<p>How many client PCs will require access to the Script Manager component (for script editing)?</p> <p>Note: As of date of publication, the following information on Client Access Licensing was available from Microsoft. Consult Microsoft for the latest information. Nortel Networks does not accept any liability for end-user compliance with Microsoft licensing agreements. This information has been provided for your convenience.</p> <p>You must purchase from Microsoft both a Terminal Services Client Access License and a Windows 2000 Server Client Access License for <i>each</i> client PC running on Windows 95, 98, NT, or ME that will be accessing the Script Manager portion of the Scripting component. Client PCs running on Windows 2000 only require a Windows 2000 Server Client Access License; they do not require a separate Terminal Services Client Access License. Nortel Networks does not provide these Client Access Licenses. The Windows 2000 Server Client Access Licenses do not float (that is, they are specific to the client PCs for which they have been purchased). If the client PC is accessing only Script Variables or Application Thresholds, then these licenses are not required.</p>	

	Pre-installation questions	Fill in the required information
24	Is Internet Explorer configured on client PCs to use a Proxy Server? If so, notify your Proxy Server administrator to avoid any potential browsing problems.	
25	Have you downloaded the most recent Service Update for Symposium Call Center Server and Symposium Web Client from https://www21.nortelnetworks.com/MPL (for Europe), or from https://www43.nortelnetworks.com/MPL (for North America)?	

Installation checklist

Install order	Installation task description	✓
Symposium Call Center Server		
1	Configure the Real-Time Statistics Multicast (RSM) component on each server in Symposium Call Center Server that provides real-time statistics. For more information, refer to Chapter 2, “Preparing Symposium Call Center Server”.	<input type="checkbox"/>
2	Test the Real-Time Statistics Multicast service.	<input type="checkbox"/>
3	Download and apply the latest Service Update for Symposium Call Center Server from https://www21.nortelnetworks.com/MPL (for Europe), or from https://www43.nortelnetworks.com/MPL (for North America). Then download the latest installation and documentation addendum from www.nortel-sccs.com .	<input type="checkbox"/>
Application Server		
4	<p>Install Windows 2000 Server with SMTP, Internet Information Services (IIS), Terminal Services, and Terminal Services Licensing. For more information, refer to “Windows 2000 Server installation checklist” on page 44.</p> <p>Note: After you have finished installing all software on the application server, you must activate the Terminal Services License Server. For more information, see “To activate the Terminal Services License Server” on page 154.</p> <p>Note: Terminal Services can communicate with the Terminal Services License Server (Terminal Services Licensing) only if they are in the same domain. Therefore, Nortel Networks recommends that you install both on the application server because it is a domain controller.</p>	<input type="checkbox"/>
5	<p>Install Windows 2000 Server Service Pack 1 or higher if it was not installed during the Windows 2000 installation.</p> <p>Note: Newer versions of Windows 2000 Server include Service Pack 1.</p>	<input type="checkbox"/>

Install order	Installation task description	✓
6	Install Microsoft Active Directory. For more information, refer to “Installing Microsoft Active Directory” on page 75.	<input type="checkbox"/>
7	Install the third-party application, Sybase Open Client v.12, for the Historical Reporting and Contact Center Management components. For more information, refer to “Installing Sybase Open Client on the application server” on page 88.	<input type="checkbox"/>
8	If Crystal Reports 8.0 is installed on the application server, then you must apply Seagate Software’s hot fix, Scr8_webregfix.exe, <i>before</i> you install Symposium Web Client. You can access this hot fix at http://support.crystaldecisions.com/updates .	<input type="checkbox"/>
9	Install Symposium Web Client. For more information, refer to “Installing Symposium Web Client on the application server” on page 94.	<input type="checkbox"/>
10	Download and apply the latest Service Update for Symposium Web Client from https://www21.nortelnetworks.com/MPL (for Europe), or from https://www43.nortelnetworks.com/MPL (for North America). Then download the latest installation and documentation addendum from www.nortel-sccs.com .	<input type="checkbox"/>
11	Configure Emergency Help. For more information, refer to “Configuring Emergency Help” on page 137.	<input type="checkbox"/>
12	Configure SMTP on the application server (if you are using the Historical Reporting component). For more information, refer to “Configuring Historical Reporting” on page 139.	<input type="checkbox"/>
13	Configure Terminal Services on the application server. For more information, refer to “Configuring Scripting” on page 146. Note: While configuring Terminal Services, you must activate the Terminal Services License Server on the application server. For more information, see “To activate the Terminal Services License Server” on page 154.	<input type="checkbox"/>

Install order	Installation task description	✓
14	Configure Agent Desktop Displays' server component (if Agent Desktop Displays is going to be used on a client). For more information, refer to "Configuring Agent Desktop Displays" on page 157.	<input type="checkbox"/>
Client Workstation		
15	Install any required third-party applications. Note: The third-party applications that must be installed on a client vary depending on the client's operating system. For more information, refer to "Installing third-party software on a client" on page 162.	<input type="checkbox"/>
16	Configure Internet Explorer 5.5 Service Pack 1 (or higher).	<input type="checkbox"/>
17	Install Agent Desktop Displays on client PCs.	<input type="checkbox"/>

If you experience technical difficulties while installing Symposium Web Client, ensure that you have downloaded the latest Service Updates and Performance Enhancement Packages (PEPs) for Symposium Call Center Server 4.0 and for Symposium Web Client. You can access the most recent updates from <https://www21.nortelnetworks.com/MPL> (for Europe), or from <https://www43.nortelnetworks.com/MPL> (for North America).

Nortel Networks personnel use pcAnywhere v.9.2 only as a remote support tool. If you require remote support from Nortel Networks, it is recommended that you install pcAnywhere v.9.2. For more information, see "To configure pcAnywhere 9.2" on page 280.

Windows 2000 Server installation checklist

The following checklist describes the Windows 2000 Server installation order:

Windows 2000 Server installation checklist	✓
<p>Set up a partition on the application server with an NTFS file system on the partition that will contain the Web Client application.</p> <p>ATTENTION</p> <p>If you are unfamiliar with formatting hard drives, setting up partitions, and selecting file systems, see your Microsoft Windows 2000 Server documentation for more information before you perform this procedure. Failure to do so may result in loss of data.</p>	☐
<p>After creating the partition, the system copies Windows 2000 Server files to the hard drive. When the copy process is complete, the system restarts.</p>	☐
<p>Windows 2000 server displays the following windows:</p> <ul style="list-style-type: none"> ■ a system devices (mouse, keyboard, monitor, and so on) installation window ■ a regional settings window in which you can customize the system for your current geographical region ■ an identification window in which you can enter your name and the name of your organization 	☐

Windows 2000 Server installation checklist	<input checked="" type="checkbox"/>
<p>Licensing Modes window</p> <p>The following settings are recommended in this window:</p> <ul style="list-style-type: none"> ■ Click Per Server. ■ Type 5* in the Concurrent Connections box. *See Note. <p>Note: The number that you type in this box must be equal to at least the number of Terminal Services Client Access Licenses (CALs) that you have purchased. The number of script editing sessions allowed depends on the number of Windows 2000 Server CALs and Terminal Services CALs that you have purchased, whichever is lower (each client accessing Scripting requires both of these types of licenses; however, you may have other client workstations in your network that only have Windows 2000 Server CALs and do not require access to Scripting). The Windows 2000 Server CALs do not float (that is, they are specific to the client PCs for which they have been purchased); therefore, you must first decide which clients will need to access Scripting, and then purchase the appropriate number of licenses for these clients.</p>	<input type="checkbox"/>
<p>Computer Name and Administrator Password window</p> <p>1 The system displays a computer name. Change this name to match the computer name supplied to you by the network administrator. This information should be recorded in the “Pre-installation worksheet” on page 35.</p> <p>2 Type the password for the Administrator account for this computer. You must use this password whenever the user name <i>Administrator</i> is used to log on to the computer on which Symposium Web Client resides.</p> <p>WARNING</p> <p>You cannot change the computer name that you choose during the Windows 2000 Server installation at a later date without disrupting the operations of both Symposium Web Client and Active Directory. Both applications require the computer name to be identified on the network.</p>	<input type="checkbox"/>

Windows 2000 Server installation checklist	✓
<p>Windows Components window</p> <p>Accept the default values in this window, and click Terminal Services and Terminal Services Licensing. Terminal Services is required for Symposium Web Client's Scripting component. SMTP is a subcomponent of IIS and is checked by default. Click Internet Information Services, and then click Details to see SMTP on the components list.</p> <p>Note: As of date of publication, the following information on Client Access Licensing was available from Microsoft. You must consult Microsoft for the latest information. Nortel Networks does not accept any liability for end-user compliance with Microsoft licensing agreements. This information has been provided for your convenience.</p> <ul style="list-style-type: none"> ■ You must purchase from Microsoft both a Terminal Services Client Access License and a Windows 2000 Server Client Access License for <i>each</i> client PC running on Windows 95, 98, NT, or ME that will be accessing the Script Manager portion of the Scripting component. ■ Client PCs running on Windows 2000 only require a Windows 2000 Server Client Access License; they do not require a separate Terminal Services Client Access License. ■ Nortel Networks does not provide these Client Access Licenses. ■ The Windows 2000 Server Client Access Licenses do not float (that is, they are specific to the client PCs for which they have been purchased). ■ If the client PC is accessing only Script Variables or Application Thresholds, then these licenses are not required. 	☐
<p>Date and Time Settings window</p> <p>Adjust as required.</p>	☐

Windows 2000 Server installation checklist	✓
<p>Terminal Services Setup windows</p> <ol style="list-style-type: none"> 1 Click Application Server mode. 2 Click Next. 3 Click Permissions Compatible With Terminal Server 4.0 Users. 4 Click Next. <p>Note: If <i>all</i> of the application server's client PCs are running on the Windows 2000 Professional platform, you can click Permissions Compatible With Windows 2000 Users.</p>	☐
<p>Network Settings window</p> <ol style="list-style-type: none"> 1 Click Custom Settings. 2 Click Next. The Networking Components window appears. 	☐
<p>Networking Components window</p> <p>Use this window to set up subnets, gateways, and domain names.</p> <ol style="list-style-type: none"> 1 Click Internet Protocol (TCP/IP), and then click Properties. The Internet Protocol (TCP/IP) Properties window appears. <p>Note: Do not use dynamic IP addressing.</p> <ol style="list-style-type: none"> 2 Click Use the following IP address, and, in the IP address section, enter the IP address for the application server, the subnet mask, and default gateway that your company uses. 3 Click Use the following DNS server addresses, and then enter the IP address for the Preferred DNS server and Alternate DNS server. 4 Click Advanced. The Advanced TCP/IP Settings window appears. 	☐

Windows 2000 Server installation checklist	✓
<p>Advanced TCP/IP Settings window</p> <p>1 Click the DNS tab.</p> <p>2 In the lower half of the window, click Append these DNS suffixes, and then click Add. Type the suffixes that your company uses (for example, ca.softwaremaker.com).</p> <p>3 If your company uses Windows Internet Naming Services (WINS) or programs that require the NetBIOS protocol, do the following:</p> <ul style="list-style-type: none"> ■ Click the WINS tab. ■ Type the WINS IP address, and then click Add to add it to the list. Click OK. <p>4 Click OK to close the General TCP/IP Settings window.</p> <p>5 Click Next. The Workgroup or Computer Domain window appears.</p>	☐
<p>Workgroup or Computer Domain window</p> <p>Note: You must set up the application server as a standalone server.</p> <p>1 Click No, this computer is not on a network, or is on a network without a domain.</p> <p>2 Click Next. The Installing Components window appears.</p>	☐
<p>Installing Components window</p> <p>The Windows 2000 Server Setup Wizard continues with the installation, copying the files required for the settings you have selected.</p>	☐
<p>Performing Final Tasks window</p> <p>In this window, Setup registers components, installs Start menu components, and removes temporary files.</p>	☐

Windows 2000 Server installation checklist	✓
Upgrading to Windows 2000 Service Pack 1 or higher After you install Windows 2000 Server, you must upgrade to Service Pack 1 or higher if it was not installed during the Windows 2000 installation. Note: Newer versions of Windows 2000 Server include Service Pack 1. If you do not have Service Pack 1 or higher, you can download the files from Microsoft's web site, or install the files from the CD-ROM.	<input type="checkbox"/>
Creating shared folders on the application server After you install Windows 2000 and upgrade to Service Pack 1 or higher, create the shared folders and add the printers on the application server that will be used for Scripting and Historical Reporting. For more information, see "Configuring Historical Reporting" on page 139, and "Configuring Scripting" on page 146.	<input type="checkbox"/>

Chapter 2

Preparing Symposium Call Center Server

In this chapter

Overview	52
Modifying Real-time Statistics Multicast settings	53
Testing the Real-time Statistics Multicast service	62

Overview

Introduction

The Symposium Web Client application server uses the Real-time Statistics Multicast (RSM) service to send real-time data from Symposium Call Center Server to Symposium Web Client users. The two Web Client components that require this functionality are Real-Time Reporting and Agent Desktop Displays.

Before Symposium Web Client can send and receive multicast data, RSM must be installed and configured on the server in Symposium Call Center Server.

The RSM service is installed during the Symposium Call Center Server installation. During installation, the system verifies that you have the correct RSM keycode, and then installs the required RSM files on the server.

When you install RSM, you must provide the IP multicasting address that the server in Symposium Call Center Server uses to transmit RSM data to the Web Client application server. The system automatically sets the default port numbers and multicast rates for real-time statistics during installation.

For more detailed information on installing the RSM feature in Symposium Call Center Server, see “Installing the Server Software” or “Converting, upgrading, reinstalling, and uninstalling server software” in the *Symposium Call Center Server Installation and Maintenance Guide*.

This chapter explains how to perform the following procedures in Symposium Call Center Server:

- Modify the default RSM settings and multicast rates. See “Modifying Real-time Statistics Multicast settings” on page 53 for more information. You must modify the default RSM settings; otherwise, no data is sent from the server in Symposium Call Center Server to the Symposium Web Client application server.
- Verify that the RSM service is sending data to the appropriate ports. See “Testing the Real-time Statistics Multicast service” on page 62 for more information.

Modifying Real-time Statistics Multicast settings

Introduction

You can modify RSM's default settings on each server in Symposium Call Center Server to reflect the requirements of your organization:

- You can activate or deactivate the collection of up to six types of real-time statistics using the RTD Multicast Controller Utility (MulticastCtrl.exe).
- You can modify the following multicast settings using the RTD Multicast Configuration Utility (RSMConfig.exe):
 - the IP multicast address
 - the Time To Live (TTL) value for the IP multicast data
 - the IP ports that send the real-time statistics
 - the multicast rates for the IP ports that send the real-time statistics

Activating or deactivating the collection of real-time statistics

You can select which statistics the RSM service collects and how they are collected using the RTD Multicast Controller utility.

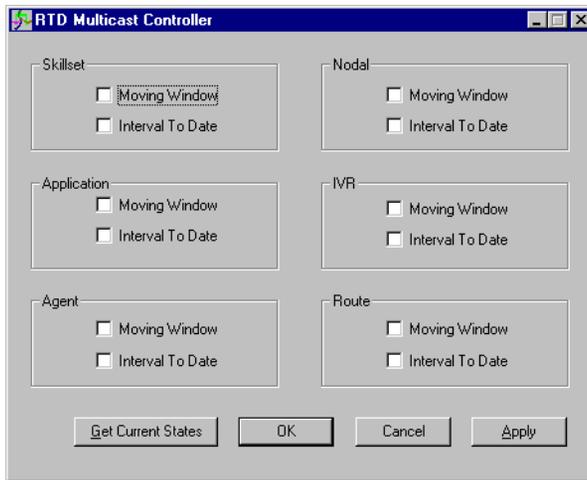
To activate or deactivate the collection of real-time statistics

- 1 Navigate to the folder in which the RSM component is installed:

[drive]:\Nortel\iccm\bin

2 Double-click **MulticastCtrl.exe**.

Result: The RTD Multicast Controller window appears.



3 Click the **Moving Window** or **Interval To Date** check boxes, or both, for each real-time statistics group that you want to collect.

Note: Nortel Networks recommends that you click Moving Window and Interval To Date for all statistics groups, so both options are available for all statistics in Symposium Web Client.

The Meridian 1 and Succession Communication Server for Enterprise 1000 switch (M1/CSE 1000) real-time statistics groups are

- Skillset
- Application
- Agent
- Nodal
- Route
- IVR

The Digital Multiplex Switch/Meridian Stored Logic-100 switch (DMS/MSL-100) real-time statistics groups are

- Skillset
- Application

- Agent
 - Nodal
- 4 Click **Apply**.
 - 5 Click **OK** to close the window.

Modifying RSM settings and multicast rates

Perform the following steps to modify RSM settings and multicast rates in Symposium Call Center Server.

To modify RSM settings and multicast rates

- 1 Navigate to the folder in which the RSM component is installed:

[drive]:\Norte\liccm\bin

- 2 Double-click **RSMConfig.exe**.

Result: The RTD Multicast Configuration window appears.

	Interval To Date		Moving Window	
	IP Port	Multicast Rate: (ms)	IP Port	Multicast Rate: (ms)
Agent:	6060	5000	6070	5000
Application:	6020	5000	6030	5000
Skillset:	6040	5000	6050	5000
Nodal:	6080	5000	6090	5000
IVR:	6100	5000	6110	5000
Route:	6120	5000	6130	5000

ATTENTION

The IP multicast addresses that support multicasting are 224.0.0.0 through 239.255.255.255, *but* the IP multicast addresses between 224.0.0.0 and 224.0.0.255 inclusive are reserved for routing and topology discovery or maintenance protocols, and should not be used.

Check the Internet Engineering Task Force (<http://www.ietf.org>) and Internet Assigned Numbers Authority (<http://www.iana.org>) web sites to review a complete list of reserved IP multicast addresses before you select an address for your internal multicast needs.

For more information about IP Multicasting, see “Implementing IP multicasting for Symposium Web Client” on page 309.

- 3 In the **IP Multicast group** box, type the IP multicast address that has been designated as the sending address for IP multicasting in Symposium Call Center Server.
- 4 Accept the default IP port numbers for each statistics group.

ATTENTION

Do not change the default IP port numbers assigned to the statistics groups. Symposium Web Client’s Real-Time Reporting component receives multicast statistics through these ports and will malfunction if the port numbers are changed.

- 5 Change the Multicast time to live (TTL) value to a value that is appropriate for your network.

ATTENTION

If packets are traveling through more than one router, you should change the Multicast TTL value to a value that is appropriate for your network and the number of routers that you use. If the TTL value is set too low, the real-time multicast statistics may not reach your application. The Default TTL value is 2 hops. Nortel Networks recommends a value between 64 and 68 hops.

- 6 Accept the default multicast rates (5 seconds) in the **Multicast Rate** boxes.

ATTENTION

The rate at which multicast data from Symposium Call Center Server reaches the end user in Symposium Web Client is a combination of the following settings:

- the Multicast Rate at which data is sent from Symposium Call Center Server to the Symposium Web Client application server
- the Output Rate at which the application server outputs data to client PCs
- the Transform Rate at which the application server processes real-time statistics

You should notify users of the Real-Time Reporting component of these rates. Users should set the Refresh Rate in Real-Time Reporting equal to or greater than the sum of the Multicast Rate, the Output Rate, and the Transform Rate.

You can adjust the default multicast rates in Symposium Call Center Server to a minimum value of 0.5 seconds; however, reducing the multicast rates increases the workload on Symposium Call Center Server. Adjust these rates only if you are certain that Symposium Call Center Server can handle the additional workload.

Tip: If you have made an error in modifying the multicast IP group, TTL, IP ports, or the multicast rates for each port, you can restore the original values by clicking **Registry Values** or **Default Values**. If you modify any of these values and click **OK** or **Apply**, the appropriate registries are updated with your changes. If you click **Registry Values** after the modifications have been saved to the registry, it has no effect.

- Click **Registry Values** before you click **Apply** to retrieve the values stored in the registries. Use this option if you want to cancel a change without having to remember and retype the original values.
- Click **Default Values** to restore the values that are set when Symposium Call Center Server is installed. Use this option if you have saved changes to the registry that have caused RSM-dependent applications to malfunction, and you want to begin again with the default RSM configuration.

7 Click **OK**.

ATTENTION

To activate new RSM settings on Symposium Call Center Server (with the exception of the multicast rates), you must stop and start the Statistical Data Propagator (SDP) service. For more information, see “To activate modifications to the RSM settings: multicast IP group, TTL, and IP port” on page 60.

To activate new multicast rate settings on Symposium Call Center Server, you must open the configuration utility and click **Apply**. Then, you must stop and restart the SDP service. For more information, see “To activate modifications to multicast rates” below.

Activating modifications to multicast rates and RSM settings

When you modify multicast rates, RSM continues to transmit data at the original rate until you open the Multicast Controller utility and click **Apply**. Then, activate the change on Symposium Call Center Server by stopping and starting the Statistical Data Propagator (SDP) service.

You must also stop and start the SDP service when you modify the following RSM settings: the multicast IP group, TTL and IP port settings.

ATTENTION

When you stop the SDP service, Symposium Call Center Server stops sending RSM data to the Symposium Web Client application server, and real-time displays do not receive data during this time; therefore, Nortel Networks recommends that you stop and start the SDP service during non-peak hours.

To activate modifications to multicast rates

When you change a multicast rate in the RTD Multicast Configuration utility, you are only modifying the default value, not the current transmission rate. RSM continues to transmit data at the current rate until you open the RTD Multicast Controller utility and click **Apply**. After you click **Apply** in the RTD Multicast Controller utility, you must stop and restart the SDP Service.

- 1 Navigate to the folder in which the utility is installed:

[drive]:\Nortel\iccm\bin

- 2 Double-click **MulticastCtrl.exe**.

Result: The RTD Multicast Controller window appears.

- 3 Click **Apply**.

- 4 Click **Close**.

- 5 Click Start → Settings → Control Panel.

- 6 Click **Services**.

Result: The Services window opens.

- 7 From the list of services, select the SDP_Service.

- 8 Click **Stop**.

- 9 Click **Start**.

Result: The system retrieves the new multicast rates from the appropriate registry, and RSM begins transmitting at the new rate.

- 10 Click **Close**.

Tip: If you are having problems stopping and starting the SDP_Service, you can temporarily disable it. When you disable the SDP_Service, it automatically stops running. After the service is disabled, reset it to start automatically, and then restart the service.

- a. In the Services window, click the **SDP_Service**.

- b. Click **Startup**.

Result: The Service dialog box appears.

- c. Click **Disabled**.

Result: The SDP_Service is disabled.

- d. Click **OK** to return to the Services window.

- e. With the SDP_Service highlighted, click **Stop**.

Result: The SDP_Service stops.

- f. Click **Startup**.

Result: The Service dialog box appears.

- g. Click **Automatic**.

Result: The SDP_Service is set to automatically start when the system starts.

- h. Click **OK** to return to the Services window.
- i. With the SDP_Service highlighted, click **Start** to restart the service.
- j. Click **Close**.

To activate modifications to the RSM settings: multicast IP group, TTL, and IP port

- 1 Click Start → Settings → Control Panel.

- 2 Click **Services**.

Result: The Services window opens.

- 3 From the list of services, select the SDP_Service.

- 4 Click **Stop**.

- 5 Click **Start**.

- 6 Click **Close**.

Tip: If you are having problems stopping and starting the SDP_Service, you can temporarily disable it. When you disable the SDP_Service, it automatically stops running. After the service is disabled, reset it to start automatically, and then restart the service.

- a. In the Services window, click the SDP_Service.

- b. Click **Startup**.

Result: The Service dialog box appears.

- c. Click **Disabled**.

Result: The SDP_Service is disabled.

- d. Click **OK** to return to the Services window.

- e. With the SDP_Service highlighted, click **Stop**.

Result: The SDP_Service stops.

- f. Click **Startup**.

Result: The Service dialog box appears.

g. Click **Automatic**.

Result: The SDP_Service is set to automatically start when the system starts.

h. Click **OK** to return to the Services window.

i. With the SDP_Service highlighted, click **Start** to restart the service.

j. Click **Close**.

Testing the Real-time Statistics Multicast service

Introduction

After you have installed RSM on Symposium Call Center Server, or modified RSM and restarted SDP_Service, you can test the RSM service by using the Multicast Receive utility (mRcv.exe). The Multicast Receive utility displays statistical information according to the settings specified in a configuration file called mRcv.ini.

Configuring the Multicast Receive utility

The Multicast Receive utility tests the RSM service's send capabilities one port at a time. You can specify which IP address and port the utility should monitor in the [MCast] section of the mRcv.ini file.

To modify the mRcv.ini file

- 1 Navigate to the folder in which the utility is installed:

[drive]:\Nortel\iccm\bin

- 2 Use a text editor to open mRcv.ini.
- 3 Modify the IP address or the port number, or both.

Note: The port numbers listed within the section bordered by # symbols in the .ini file are for reference only and list all of the acceptable port numbers that you can use in your test. See "Sample mRcv.ini file" on page 63 for an example of the information contained in a standard mRcv.ini file.

Example

If you want to test receipt of Skillset - Interval to date data, check the port number for Skillset - Interval to date in the .ini file, and then change the Port= setting in the [MCast] section to that port number. If Skillset - Interval to date = 6040 in the .ini file, the [MCast] section of the .ini file should be modified as follows:

```
[MCast]
IP=234.5.6.7
Port=6040
```

ATTENTION The IP= value must match your IP multicast address.

- 4 Save the mRcv.ini file. After setting the parameters for your test, you can start mRcv.exe to begin the test. For more information, see “To start the mRcv application” on page 64.

Sample mRcv.ini file

The sample below is the default mRcv.ini file provided by the Symposium Call Center Server installation. When you run the mRcv.exe utility, it uses this .ini file to display Skillset - Moving window data sent by RSM based on the settings in the [MCast] section at the bottom of the file (IP = 234.5.6.7 Port = 6050).

Note: The list of port numbers in the mRcv.ini file is for reference only, and each line is “commented out” with the # symbol. You can use these port numbers as an easy-to-access list of valid ports that are being used in the system to display data. The only portion of the .ini file that can be modified is the [MCast] section at the bottom of the file.

```
#####
#
# mRcv.ini file
#
# Valid port numbers are:
# Application - Interval to date = 6020
# Application - Moving window = 6030
# Skillset - Interval to date = 6040
# Skillset - Moving window = 6050
# Agent - Interval to date = 6060
# Agent - Moving window = 6070
# Nodal - Interval to date = 6080
# Nodal - Moving window = 6090
# IVR - Interval to date = 6100
# IVR - Moving window = 6110
# Route - Interval to date = 6120
# Route - Moving window = 6130
```


Chapter 3

Installing and configuring application server software

In this chapter

Overview	66
Section A: Windows 2000 server	67
Section B: Installing third-party software on the application server	73
Section C: Installing Symposium Web Client on the application server	91
Section D: Configuring the application server	131

Overview

Introduction

Before you install Symposium Web Client software or third-party software on your application server, be sure to complete the “Pre-installation worksheet” on page 35. Also, follow the “Installation checklist” on page 41 to ensure that you install and configure all software in the correct order.

If you are using the Real-Time Reporting component or the Agent Desktop Displays component, refer to Chapter 2, “Preparing Symposium Call Center Server,” before you proceed with the instructions in this chapter.

This chapter explains how to complete the following procedures:

- installing and configuring Windows 2000 Server Service Pack 1 or higher
- installing other third-party software
- installing Symposium Web Client software
- configuring the application server

Section A: Windows 2000 server

In this section

Overview	68
Windows 2000 Server installation and configuration	69

Overview

Introduction

Before you can install the required third-party software or the Symposium Web Client application, you must complete the following procedures:

- creating an NTFS partition as the primary partition on the application server
- installing Windows 2000 Server with Service Pack 1 or higher, including SMTP and IIS on the primary NTFS partition

After you install and configure Windows 2000 Server with Service Pack 1 (or higher), refer to “Installing third-party software on the application server” on page 73 for information about installing Active Directory and Sybase Open Client.

Windows 2000 Server installation and configuration

Introduction

This section provides you with a high-level overview of the Windows 2000 Server with Service Pack 1 (or higher) installation and the recommended configurations that are specific to the Symposium Web Client application. This section is not intended to provide you with detailed procedures for installing Windows 2000 Server.

ATTENTION

When you install Symposium Web Client, the Web Client setup wizard creates a Windows 2000 Server user called *iceadmin*, and assigns full administrative access rights to this user. If you delete this user or modify the user's password in Windows 2000 Server, Symposium Web Client does not function properly.

Windows 2000 Server installation checklist

You can save time and effort by following the “Windows 2000 Server installation checklist” on page 44. The items in this list describe the Windows 2000 Server components whose installation or configuration affect Symposium Web Client functions.

Note: This information is *not* a comprehensive walk-through of the operating system's installation process. For detailed information on Windows 2000 Server and how to install it, see the documentation that accompanies the Windows 2000 Server installation CD.

Windows 2000 Server requirements

When you install Windows 2000 Server with Service Pack 1 (or higher), there are several Windows components in the installation process that are required for Symposium Web Client:

- Internet Information Services (IIS) with Simple Mail Transfer Protocol (SMTP)
- Terminal Services and Terminal Services Licensing.

ATTENTION

As of date of publication, the following information on Client Access Licensing was available from Microsoft. Consult Microsoft for the latest information. Nortel Networks does not accept any liability for end-user compliance with Microsoft licensing agreements. This information has been provided for your convenience.

- You must purchase from Microsoft both a Terminal Services Client Access License and a Windows 2000 Server Client Access License for *each* client PC running on Windows 95, 98, NT, or ME that will be accessing the Script Manager portion of the Scripting component.
- Client PCs running on Windows 2000 only require a Windows 2000 Server Client Access License; they do not require a separate Terminal Services Client Access License.
- Nortel Networks does not provide these Client Access Licenses.
- The Windows 2000 Server Client Access Licenses do not float (that is, they are specific to the client PCs for which they have been purchased).
- If the client PC is accessing only Script Variables or Application Thresholds, then these licenses are not required.

Note: IIS and SMTP are automatically installed if you accept the default settings in the Windows Components Wizard. To install Terminal Services, you must scroll through the list of components and check the Terminal Services and Terminal Services Licensing boxes. For more information, see the “Windows 2000 Server installation checklist” on page 44.

Note: Terminal Services can communicate with the Terminal Services License Server (Terminal Services Licensing) only if they are in the same domain. Therefore, Nortel Networks recommends that you install both on the application server because it is a domain controller.

Upgrading to Windows 2000 Server Service Pack 1 or higher

After you install Windows 2000 Server, you must upgrade to Service Pack 1 or higher. You can download the files from Microsoft's web site, or install the files from CD-ROM.

What's next?

If you did not configure a DNS server during the Windows 2000 Server installation, Symposium Web Client cannot find the Symposium Call Center Server systems. In this case, your next step is to manually update the HOSTS or LMHOSTS tables. For more information, refer to "Did you configure a DNS server?" on page 293.

If you did configure a DNS server during the Windows 2000 Server installation, your next step is to install Microsoft Active Directory.

Section B: Installing third-party software on the application server

In this section

Overview	74
Installing Microsoft Active Directory	75
Installing Sybase Open Client on the application server	88

Overview

Introduction

After installing Windows 2000 Server Service Pack 1 (or higher), you must install and configure Microsoft Active Directory on the application server before you install Symposium Web Client.

Also, you must install Sybase Open Client v.12 to use the Historical Reporting or Contact Center Management component of Web Client.

If Crystal Reports 8.0 is installed on the application server, then, *before* you install Symposium Web Client, you must apply Seagate Software's hot fix, Scr8_webregfix.exe. You can access this hot fix at <http://support.crystaldecisions.com/updates>.

Installing Microsoft Active Directory

Introduction

Active Directory is an information storage framework used in Windows 2000 that is required to identify network components and characteristics of your network.

Active Directory is not designed to hold dynamic, constantly changing data. Information in Active Directory is data that needs to be accessed quickly, but that does not change frequently. For example, the names of users in a domain and the network printers available to those users are types of information that is constantly in demand within a domain, but that does not change often.

Note: Before you install Microsoft Active Directory, ensure that you are logged on as the Administrator or with a user name that has administrator privileges, and ensure that the computer name of the server on which you are installing Active Directory is no more than 12 characters long.

The following procedures for Active Directory installation are a guideline only. You may need to modify the installation process to meet existing requirements at your organization if you are already using Active Directory.

ATTENTION

Even if you already have a domain controller set up for your organization, make sure that you set up the Symposium Web Client application server as a domain controller for a new domain. Microsoft Active Directory's installation wizard prompts you to indicate the type of domain controller that you want to create, and allows you to create a new domain tree for Symposium Web Client. If you do not set up the application server as a separate domain, Symposium Web Client does not function properly.

To install Microsoft Active Directory

- 1 Click Start → Run.

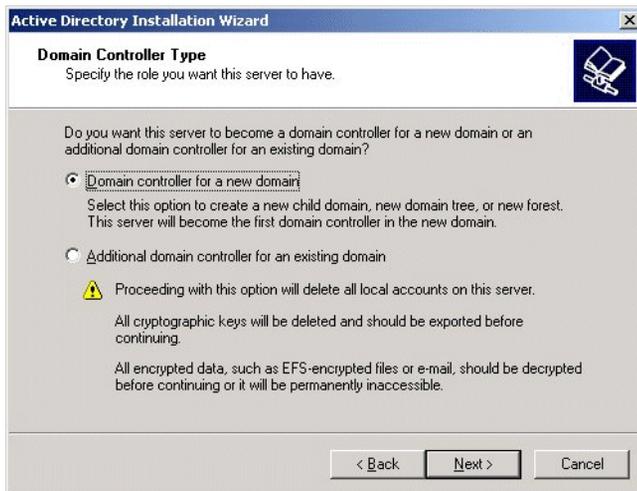
Result: The Run dialog box appears.

-
- 2 In the **Open** box, type **dcpromo** and click **OK**.

Result: The Active Directory wizard appears.

-
-
- 3 Click **Next**.

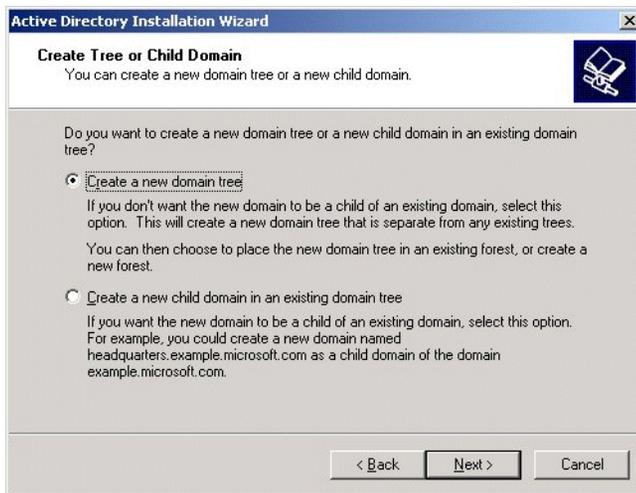
Result: The Domain Controller Type window appears.



-
-
-
- 4 Click **Domain controller for a new domain** to indicate that you are setting up the Symposium Web Client application server as the domain controller in the new domain tree (to which it will belong).

5 Click **Next**.

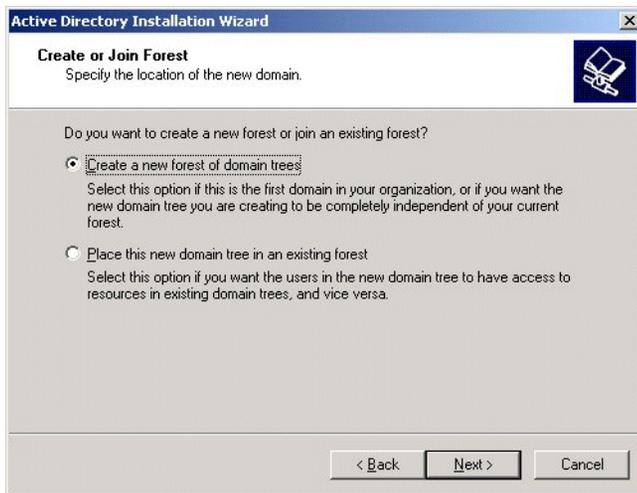
Result: The Create Tree or Child Domain window appears.

**6** Click **Create a new domain tree**.

By creating a new domain tree, you ensure that the Symposium Web Client application server and any other domains that you add to the new domain tree at a later date share the same schema and configuration, and form a contiguous name space. For example, one domain can be `symposium.webclient.com` and another domain can be `meridian.webclient.com`. Both share the name space `webclient.com`, but are separate domain trees.

7 Click **Next**.

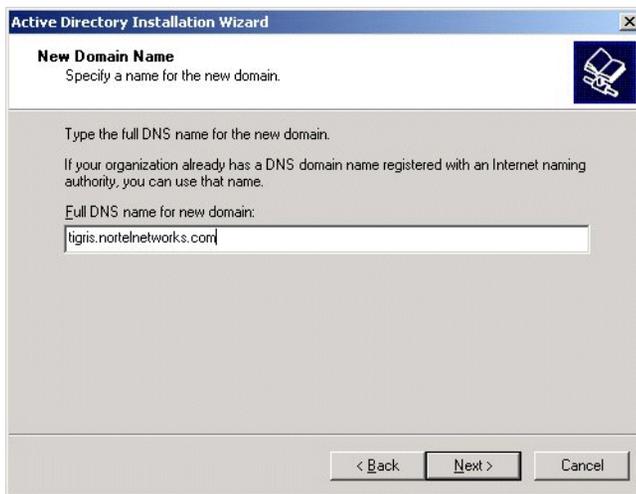
Result: The Create or Join Forest window appears.

**8** Click **Create a new forest of domain trees**.

By creating a new forest of domain trees, you indicate to Active Directory that you want to have multiple domain trees that share a common schema, configuration, and global catalog, but do not share a contiguous name space. For example, two domain trees (nortelnetworks.com and webclient.com) can belong to the same forest, but, with different names, do not form a contiguous name space.

9 Click **Next**.

Result: The New Domain Name window appears.



- 10 In the **Full DNS name for new domain** box, type **<computername>.<domain name>.com** where **<computername>** is the name of the application server on which Symposium Web Client will reside, and **<domain name>** is the name of the domain tree (to which the application server will belong).

ATTENTION

If you did not install the Windows 2000 Server operating system and are unsure of the name that was assigned to this computer, open the System dialog box in Control Panel and check the Network Identification tab.

The computer name can be a maximum of 12 characters only.

11 Click **Next**.

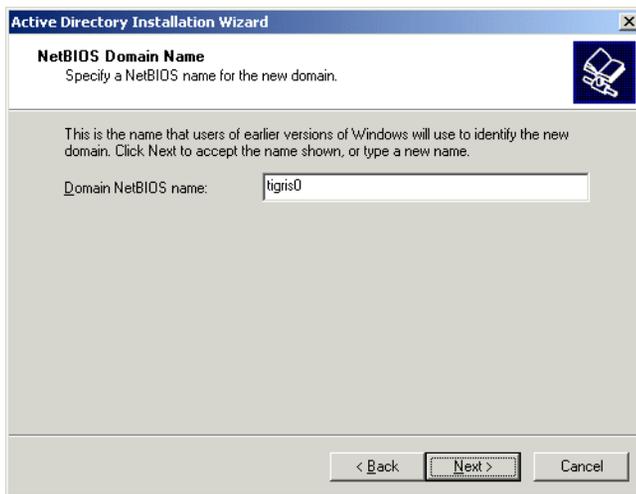
- a. If the computer name (the name of the Web Client application server) is registered in your LAN domain controller, the Active Directory installer detects that registration and displays the following dialog box with a message indicating that the computer name that you entered has been modified slightly to resolve name conflicts on the network:



The Active Directory Installer adds a zero (0) to the computer name that you typed in the New Domain Name window. For example, if you typed “Tigris” as the domain name, Active Directory modifies it to “Tigris0” to create a new name and, therefore, resolve the name conflict.

- b. Click **OK** to close the dialog box.

Result: The NetBIOS Domain Name window appears and displays a name for the NetBIOS domain. This is the computer name that you entered in the New Domain Name window.



ATTENTION

Nortel Networks recommends that you do not change the name that appears in the Domain NetBIOS name box. If Windows 2000 Server’s setup discovers a name conflict, it modifies the name that you enter, adding a zero (0) at the end. Do not remove the zero from the computer name displayed in the Domain NetBIOS name.

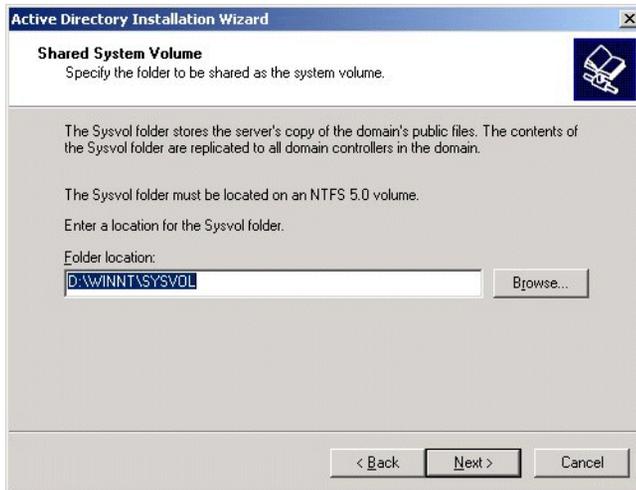
12 Click **Next**.

Result: The Database and Log Locations window appears.

13 In the **Database location** and **Log location** boxes, you can accept the defaults, type new paths, or click the **Browse** buttons and navigate to a new path for each location. The path and folder that appear in this window become the location of the Active Directory databases.**14** Click **Next**.

Result: The Shared System Volume window appears.

- 15 In the **Folder location** box, you can accept the default path, type a new path, or click **Browse** to navigate to a new path.



- 16 Click **Next**.

Result: If a dialog box appears indicating that the Active Directory Installer was unable to contact the DNS server that handles the application server, this is normal.

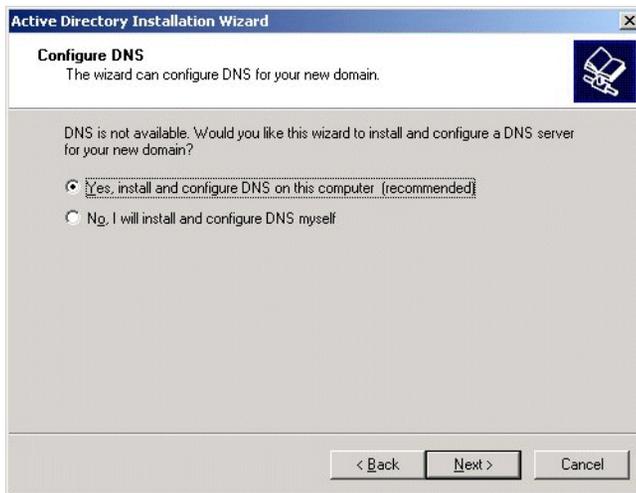


Active Directory is unable to contact the DNS server because you have just created a new computer name that is not registered in the LAN DNS.

If this dialog box does not appear, proceed to Step 18 on page 83.

- 17 Click **OK** to proceed with the installation.

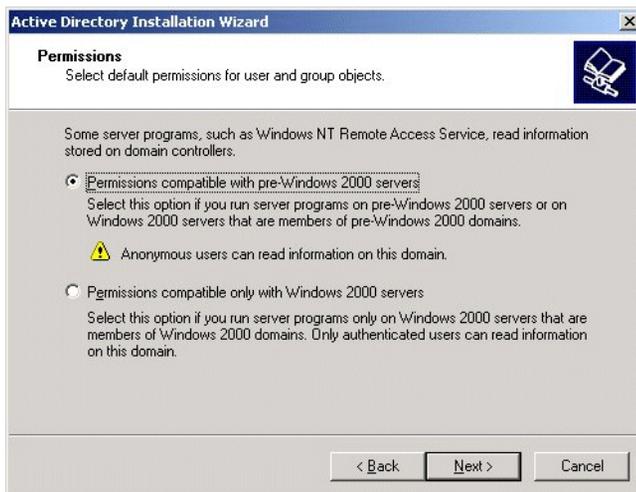
Result: The Configure DNS window appears.



- 18 Click **Yes, install and configure DNS on this computer (recommended)**.

- 19 Click **Next**.

Result: The Permissions window appears.



- 20 Click **Permissions compatible with pre-Windows 2000 servers**.

21 Click **Next**.

Result: The Directory Services Restore Mode Administrator Password window appears.



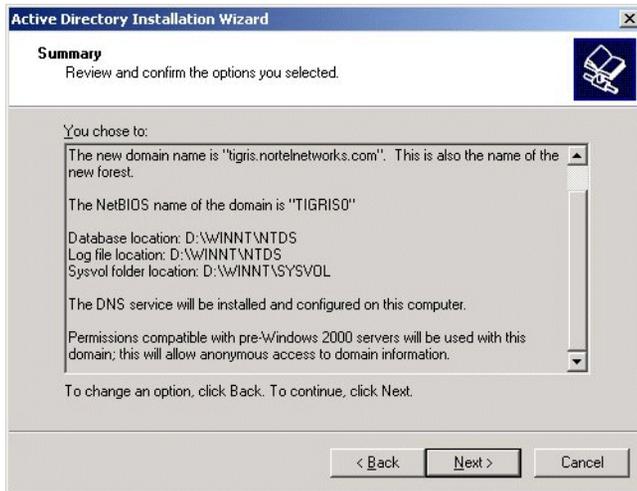
The screenshot shows a Windows-style dialog box titled "Active Directory Installation Wizard". The main heading is "Directory Services Restore Mode Administrator Password". Below the heading, it says "Specify an Administrator password to use when starting the computer in Directory Services Restore Mode." There is a small icon of a book with a key. The main area contains the instruction: "Type and confirm the password you want to assign to this server's Administrator account, to be used when the computer is started in Directory Services Restore Mode." Below this are two text input fields: "Password:" and "Confirm password:". Both fields contain a series of asterisks. At the bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

22 In the **Password** and **Confirm password** boxes, type the password for Directory Services on the application server.

Tip: Nortel Networks recommends that you use the same password for Directory Services that you use to log on to Windows 2000 Server as the Administrator.

23 Click **Next**.

Result: The Summary window appears.



- 24** Confirm the Active Directory options listed in the Summary window, and then click **Next**.

Result: The Configuring Active Directory window appears. The system begins the installation when it completes the configuration.



Note: If you did not install and configure the DNS in Step 18 on page 83, the **Skip DNS** button appears. Do not click this button. DNS must be installed for Web Client to function properly.

Result: When the system completes the installation, the Completing the Active Directory Installation Wizard window appears.



25 Click **Finish**.

Result: The Active Directory Installation Wizard's restart dialog box appears.

**26** Click **Restart Now**.

Result: The system restarts.

What's next?

Install Sybase Open Client, and then install Symposium Web Client.

Note: If Crystal Reports 8.0 is installed on the application server, then, *before* you install Symposium Web Client, you must apply Seagate Software's hot fix, Scr8_webregfix.exe. You can access this hot fix at <http://support.crystaldecisions.com/updates>.

Installing Sybase Open Client on the application server

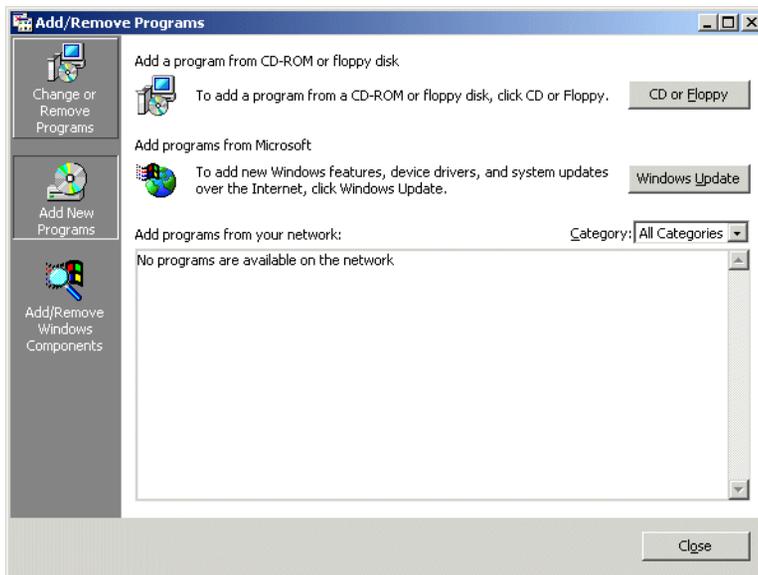
Introduction

You must install Sybase Open Client v.12 to use the Historical Reporting and Contact Center Management components. To install Sybase Open Client, you must have administrator privileges on the application server.

To install Sybase Open Client

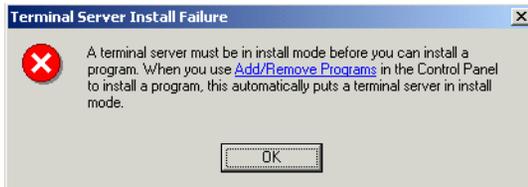
- 1 Insert the Symposium Call Center Web Client CD in the CD-ROM drive.
- 2 Click Start → Settings → Control Panel.
- 3 Double-click **Add/Remove Programs**.

Result: The Add/Remove Programs window appears.



Note: If you double-clicked the Sybase Open client v.12 setup.exe file on the Symposium Web Client CD, or if the setup file launched automatically, the Terminal Server Install Failure dialog box appears. This occurs because

Terminal Services must be in Install Mode before you can install an application.



To switch Terminal Services to Install Mode, select the Add/Remove Programs link in the dialog box. The Add/Remove Programs window appears, and Terminal Services automatically switches to Install Mode.

- 4 Click **Add New Programs**.
- 5 Click **CD or Floppy** to indicate that you want to install Sybase Open Client from the CD-ROM.

Result: The Install Program From Floppy Disk or CD-ROM window appears.

- 6 Click **Next**.

Result: The Run Installation Program window appears.

- 7 Click **Browse** and navigate to the Sybase folder on the CD-ROM: D:\SYBASE\SETUP, where D:\ is the CD-ROM drive.

- 8 Double-click **setup.exe**.

Result: The path to the setup.exe file appears in the **Open** box.

- 9 Click **Next**.

Result: Sybase's Installation Type window appears.

- 10 Click **Standard Install**, and then click **Next**.

Result: The Choose Directory window appears.

- 11 Type a custom location in which to install the software, or accept the default path (C:\SYBASE).

- 12 Click **Next**.

Result: The Summary window appears, displaying the components being installed.

13 Click **Next**.

Result: The Create Directory window appears, prompting you to confirm the name of the directory to which the files will be copied.

14 Click **Yes**.

Result: The Installing window appears, displaying a status bar while the system installs the program. When the installation is complete, the Sybase Installer window appears, prompting you to restart the system before configuring the installed components.

ATTENTION

If Sybase Open Client displays a dialog box indicating that it is attempting to overwrite an existing .DLL file, click **No** to prevent the installation wizard from overwriting the new Windows 2000 Server .DLL file with an older version.

15 Click **Yes**.

Result: This can take several minutes. Do not attempt to manually restart the system. After the system restarts, the Information window appears, confirming the Sybase installation.

ATTENTION

Do not remove the Symposium Web Client CD from the CD-ROM drive during the system restart process. The Installation Wizard carries out some final configuration procedures after the system restarts.

16 Click **OK**.

What's next?

Install Symposium Web Client.

Note: If Crystal Reports 8.0 is installed on the application server, then, *before* you install Symposium Web Client, you must apply Seagate Software's hot fix, Scr8_webregfix.exe. You can access this hot fix at <http://support.crystaldecisions.com/updates>.

Section C: Installing Symposium Web Client on the application server

In this section

Overview	92
Installing Symposium Web Client on the application server	94
Installing or repairing individual Symposium Web Client components on the application server	110
Uninstalling application server software	116
Upgrading Symposium Web Client	120
Multiple-language support	123
Backing up and restoring user data	125

Overview

Introduction

The following steps detail how to install and configure Symposium Web Client. The Web Client installation wizard requires approximately 5 minutes to acquire configuration information and to perform the installation.

Before you begin, check www.nortel-sccs.com for any documentation or installation addenda.

Note: The system requirements and installation procedures apply to Symposium Web Client and the Symposium Configuration Tool.

Before you install and use Symposium Web Client, you must ensure that the following Windows components and third-party software have been installed and configured on the application server:

- Windows 2000 Server Service Pack 1 or higher
- Internet Information Services with SMTP
- Microsoft Active Directory
- Terminal Services and Terminal Services Licensing (required only for the Script Editor portion of the Scripting component)
- Sybase Open Client v.12 (required for Historical Reporting and Contact Center Management)

If the Symposium Web Client setup wizard does not detect these programs or components on the application server, it terminates the installation process.

If Crystal Reports 8.0 is installed on the application server, you must also install the following software:

- Seagate Software's hot fix, `Scr8_webregfix.exe` (you can access this hot fix at <http://support.crystaldecisions.com/updates>)

Before you install Symposium Web Client, you must decide if you are installing Symposium Web Client as the default web site on the application server, or if you are installing it as a virtual directory on an existing web site. See “Web sites and virtual directories” on page 314 for more information on how to determine the type of web site that best suits your company’s needs.

ATTENTION

Nortel Networks recommends that you install Symposium Web Client as the default web site, reserving the application server solely for the use of Symposium Web Client.

Installing Symposium Web Client on the application server

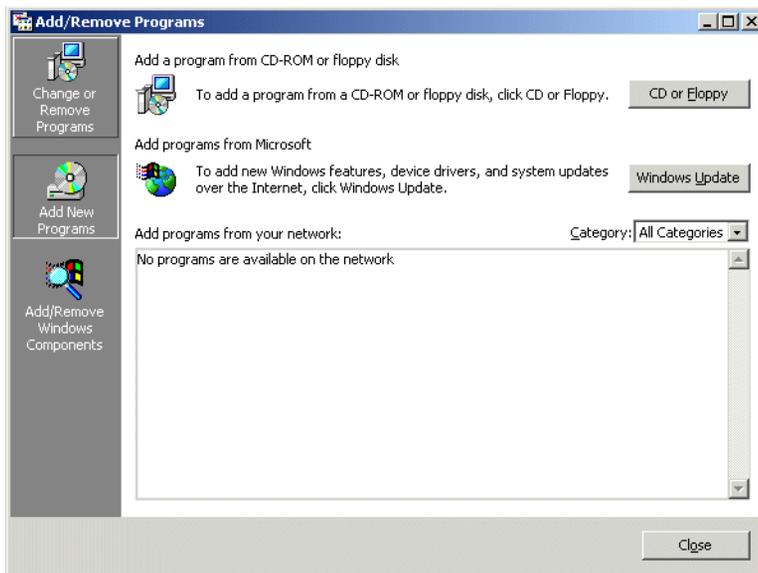
Introduction

You must have administrator privileges in Windows 2000 Server to install Symposium Web Client.

To install Symposium Web Client on the application server

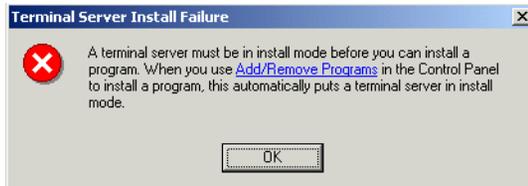
- 1 Insert the Symposium Web Client CD in the CD-ROM drive.
- 2 Click Start → Settings → Control Panel.
- 3 Double-click **Add/Remove Programs**.

Result: The Add/Remove Programs window appears.

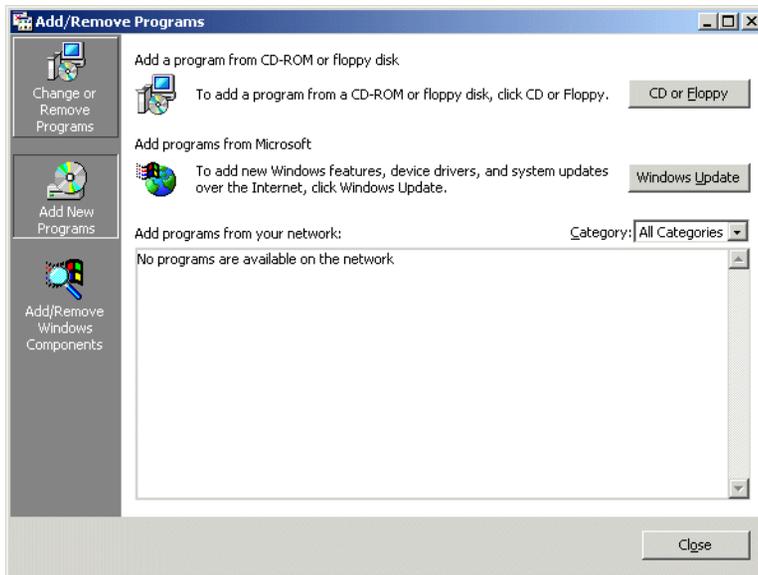


Note: If you double-clicked the Symposium Web Client setup.exe file on the Symposium Web Client CD, or if the setup file launched automatically, the Terminal Services Install Failure dialog box appears. This occurs

because Terminal Services must be in Install Mode before you can install an application.



To switch Terminal Services to Install Mode and install Symposium Web Client, select the Add/Remove Programs link in the dialog box. The Add/Remove Programs window appears, and Terminal Services automatically switches to Install Mode.



- 4 Click **Add New Programs**.
- 5 Click **CD or Floppy** to indicate that you want to install Symposium Web Client from the CD-ROM.

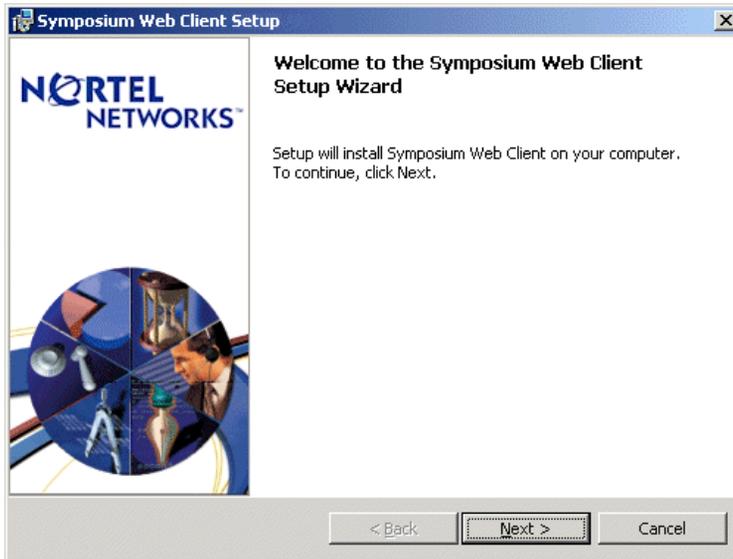
Result: The Install Program From Floppy Disk or CD-ROM window appears.

- 6 Click **Next**.

Result: The Run Installation Program window appears, and D:\setup appears by default in the Open box, where D: is the CD-ROM drive.

- 7 Click **Next**.

Result: The Symposium Web Client Setup Wizard window appears.



- 8 Click **Next**.

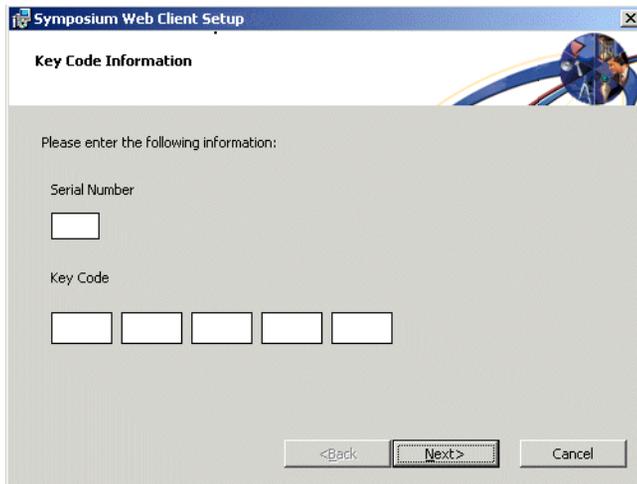
Result: If you are *reinstalling* Symposium Web Client, the system prompts you to restore customer data.



- a. Click **Yes** if you want to restore previously saved data.
- b. Click **No** if you do not want the system to restore previously saved data. The system does not restore the data, but it does not delete the

data from the application server. The data remains in a temporary folder on the application server.

Result: The Key Code Information window appears.



The screenshot shows a Windows-style dialog box titled "Symposium Web Client Setup" with a close button (X) in the top right corner. The main title of the dialog is "Key Code Information". Below the title, there is a decorative graphic of a globe with blue and red lines. The text "Please enter the following information:" is displayed. There are two input sections: "Serial Number" with a single text box, and "Key Code" with five separate text boxes. At the bottom of the dialog, there are three buttons: "<Back", "Next>" (which is highlighted with a dashed border), and "Cancel".

- 9 Type the serial number and key code for your Symposium Web Client application.

Note: The serial number is the switch ID (M1/CSE 1000) or dongle ID (DMS/MSL-100).

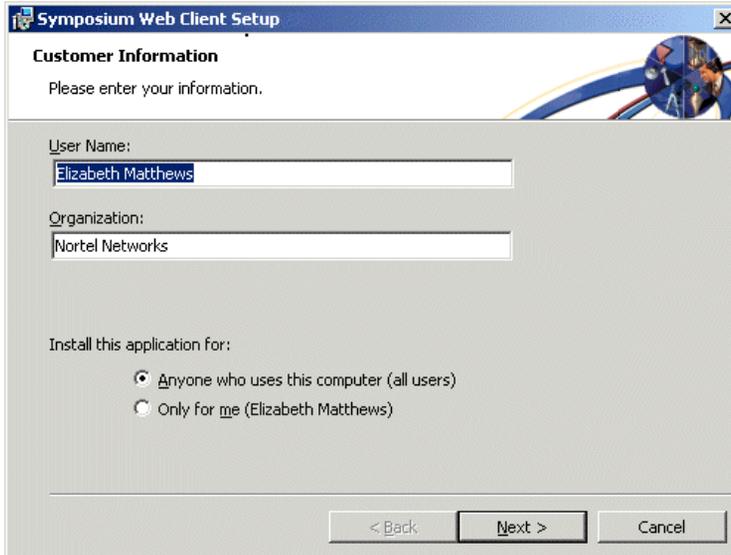
ATTENTION

Key codes are case-sensitive.

10 Click **Next**.

Note: If you made an error entering the key code or serial number, the system displays an error message in a dialog box. Click **Back** to return to the Key Code Information window, and reenter the information.

Result: The Customer Information window appears.



The screenshot shows a Windows-style dialog box titled "Symposium Web Client Setup". The main heading is "Customer Information" with a sub-instruction "Please enter your information." Below this are two text input fields: "User Name:" containing "Elizabeth Matthews" and "Organization:" containing "Nortel Networks". Underneath is a section titled "Install this application for:" with two radio button options: "Anyone who uses this computer (all users)" (which is selected) and "Only for me (Elizabeth Matthews)". At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

- a. In the **User Name** and **Organization** boxes, type the appropriate information.

- b. To set up access restrictions for this Symposium Web Client installation, click one of the options in the **Install this application for** section.

Anyone who uses this computer (all users) indicates that you want anyone who can log on to the computer to also be able to log on to Symposium Web Client.

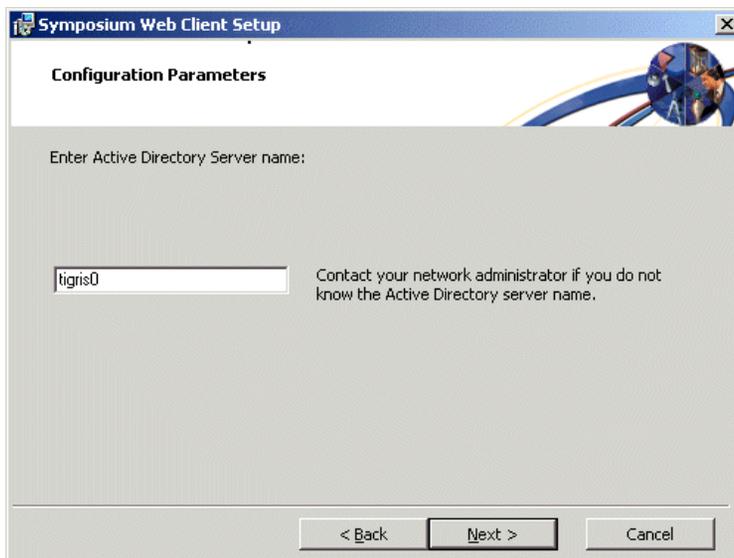
ATTENTION

Nortel Networks recommends that you click **Anyone who uses this computer (all users)**. Failure to do so can prevent users who have authorization to use Symposium Web Client from using the application server when they need to.

Only for me (<username>) indicates that you want to make sure that only a user with your user name and password can log on to Symposium Web Client.

- 11 Click **Next**.

Result: The Configuration Parameters window appears.



The screenshot shows a Windows-style dialog box titled "Symposium Web Client Setup" with a close button (X) in the top right corner. The main heading is "Configuration Parameters". Below this, there is a text prompt: "Enter Active Directory Server name:". A text input field contains the text "tigris0". To the right of the input field, there is a note: "Contact your network administrator if you do not know the Active Directory server name." At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel". The "Next >" button is highlighted with a black border.

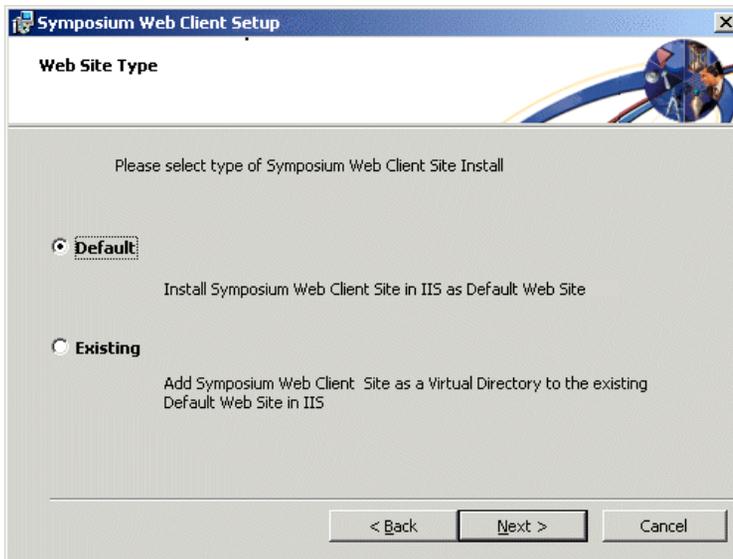
- 12 In the **Enter Active Directory Server name** box, accept the default name of the Active Directory server.

Note: This is the Domain NetBios name that was provided when Active Directory was installed on the application server. Do not change this name. For more information, see “Installing Microsoft Active Directory” on page 75.

If the default name that appears in the **Enter Active Directory Server name** box is different from the Domain NetBios name, an error message appears, indicating that you must ensure these two computer names are the same before the installation can continue.

- 13 Click **Next**.

Result: The Web Site Type window appears.



You can install Symposium Web Client as the default web site on the application server, or install it as a virtual directory on an existing web site. For more information on how to determine the type of web site that best suits your company’s needs, see “Web sites and virtual directories” on page 314.

To install Web Client as the default web site

- a. Click **Default**.

ATTENTION

Nortel Networks recommends that you click **Default**, reserving the application server solely for the use of Symposium Web Client for optimum performance.

To install Web Client as a virtual directory on an existing web site

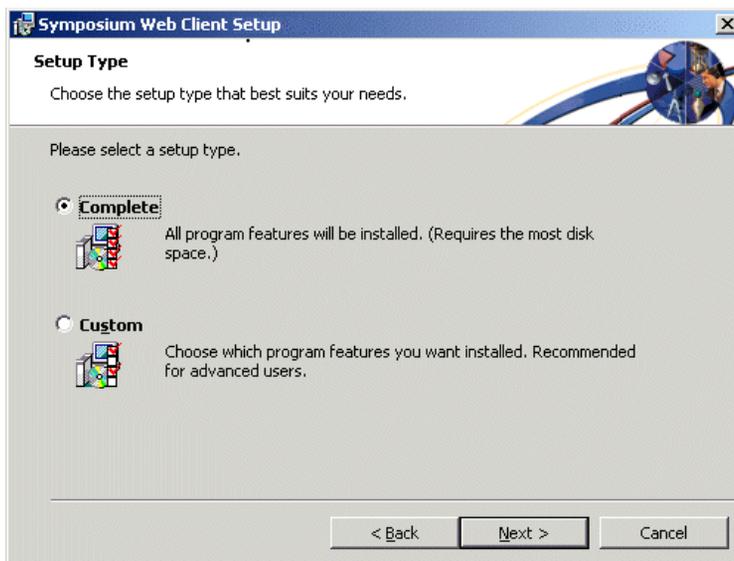
- a. Click **Existing**.
- b. Click **Next**.

Result: The Virtual Directory Name window appears with *WClient* as the default name. If you want to change the name, type a new name.

Note: The name you choose will be the name of the folder in the Default Web Site tree in IIS. To see a sample of Symposium Web Client as a virtual directory and as a default web site, see “Web sites and virtual directories” on page 314.

- 14 Click **Next**.

Result: The Setup Type window appears.



- 15 Select one of the following setup types:

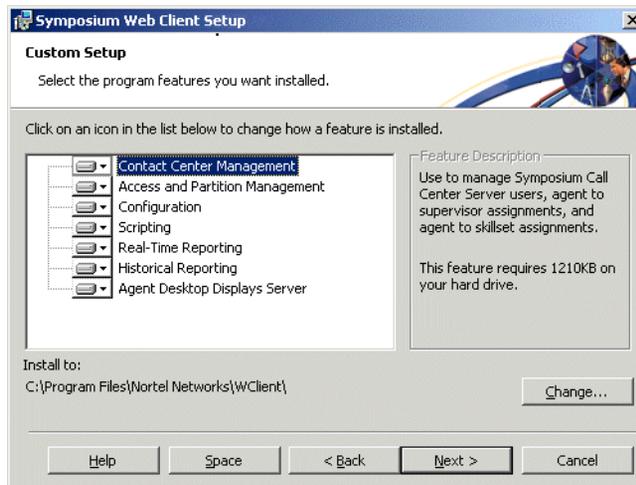
Complete: Click **Complete** to install all Symposium Web Client components and proceed to Step 19 on page 105.

Custom: Click **Custom** to use the Custom Setup window to select which Symposium Web Client components the system will install, to change the default installation directory, or to confirm available hard disk space.

16 If you want to change the components to be installed, perform the following steps:

- a. Click **Custom** in the Setup Type window.
- b. Click **Next**.

Result: The Custom Setup window appears.



- c. Click the icon for the component (for example, Historical Reports) that you do not want to install.

Result: A pop-up menu appears.

- d. Click **This feature will not be Available**.

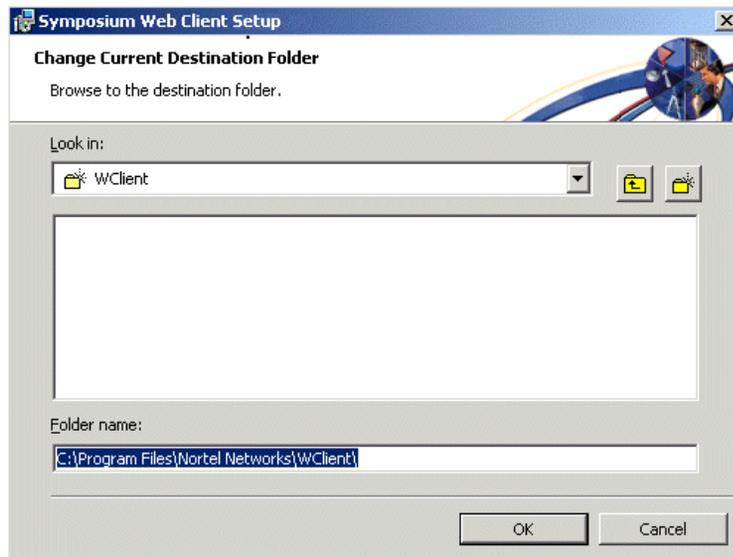
Result: An X appears beside the name of the component.

Note: Configuration, Access Management, Scripting, and Contact Center Management are mandatory for every installation of Symposium Web Client. All other components are optional. To use Agent Desktop Displays on a client, you must install the Agent Desktop Displays Server component on the application server. However, to install the Agent Desktop Displays

server component, you must first install the Real-Time Reporting component on the application server.

- 17 Confirm the default directory path that appears in the bottom left side of the window (when you click a component that is going to be installed). If you want to change the default directory path, perform the following steps:
 - a. In the Custom Setup window, click **Change**.

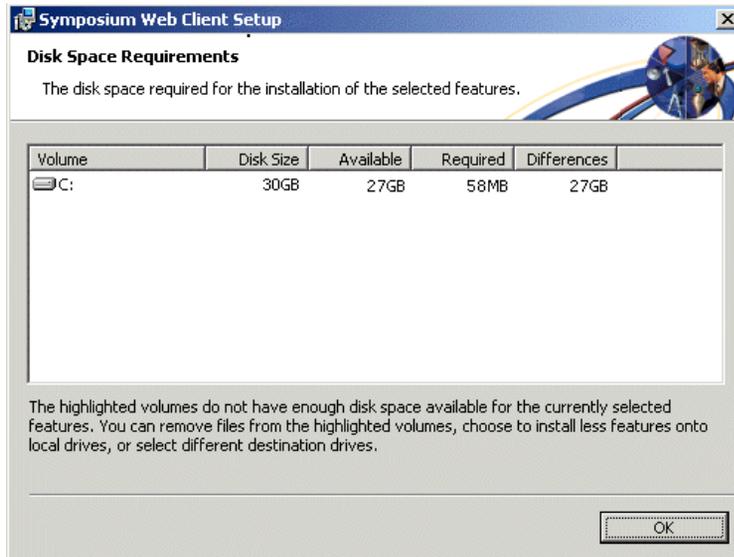
Result: The Change Current Destination Folder window appears.



- b. In the **Folder name** box, type the path to the directory and the directory name, or navigate to the drive and directory in which you want to install the program.
 - c. Click **OK** to return to the Custom Setup window.
- 18 If you want to confirm your available hard disk space, perform the following steps:
 - a. In the Custom Setup window, click **Space**.

Result: The Disk Space Requirements window appears.

Note: The Disk Space Requirements window appears automatically if you attempt to install Symposium Web Client to a drive that does not have enough free disk space.

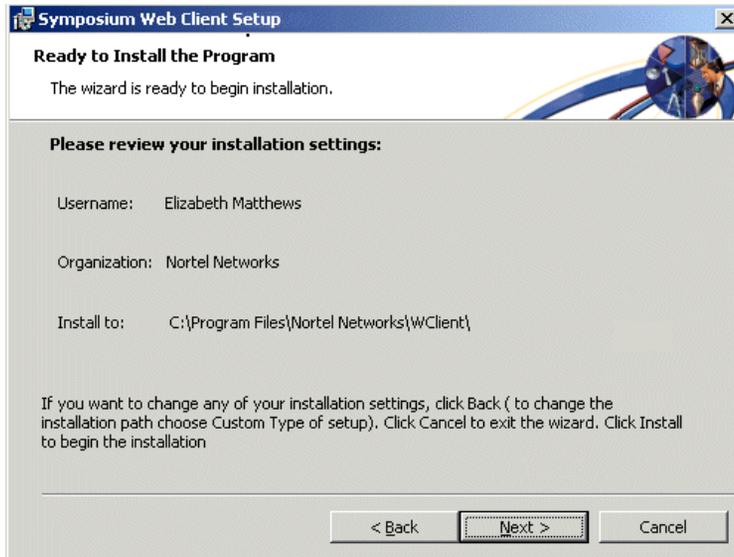


- b. Review the available disk drive space and the amount of space required to install the individual components, and then click **OK** to return to the Custom Setup window.

Note: The Symposium Web Client application requires 58 Mbytes of hard disk space; however, if you are installing the Historical Reporting component, you need an additional 230 Mbytes for Crystal Reports templates.

19 Click **Next**.

Result: The Ready to Install the Program window appears.

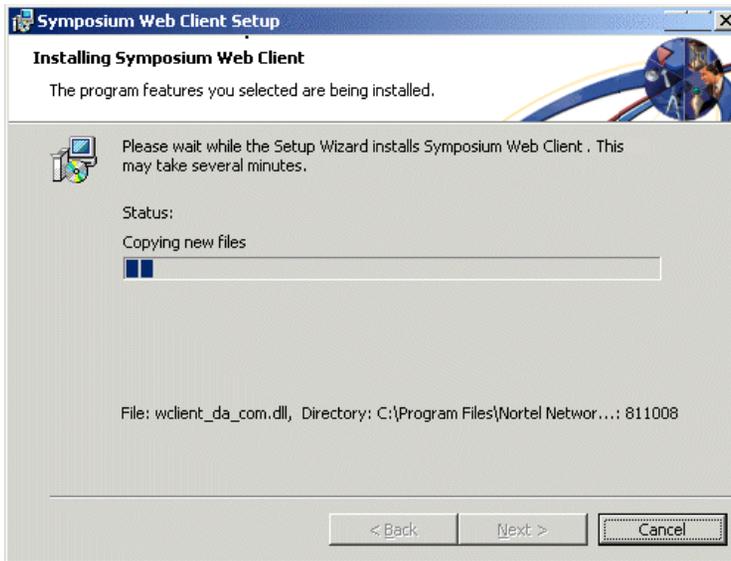


20 Click **Next**.**ATTENTION**

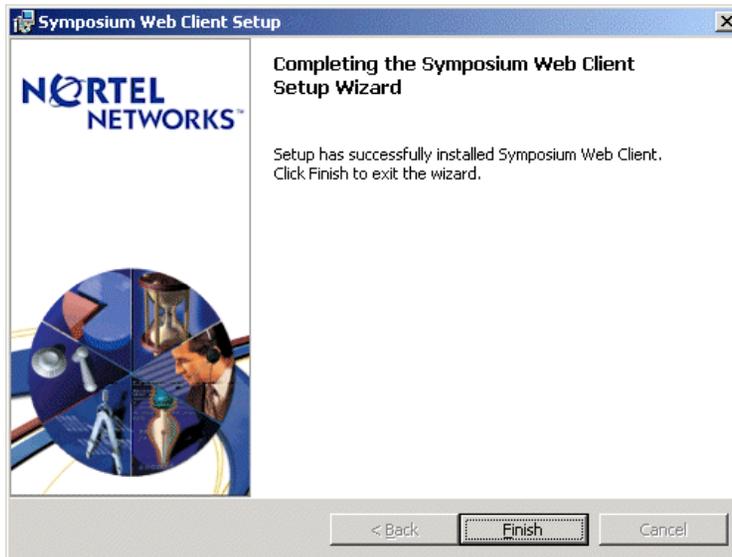
Installation ends if you did not install the required third-party applications prior to installing Symposium Web Client.

An error dialog box appears listing the missing software, and the setup wizard closes. You cannot complete the Symposium Web Client installation until you install all required software.

Result: The Installing Symposium Web Client window appears.

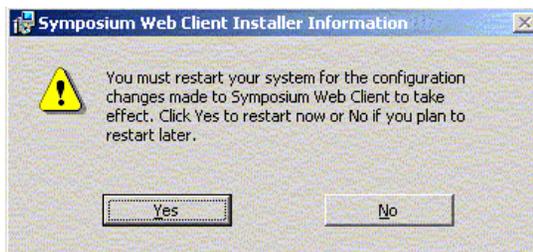


Result: When the Status bar indicates that installation is complete, the Completing the Symposium Web Client Setup Wizard window appears.



- 21 Click **Finish** to exit the setup wizard.

Result: The Symposium Web Client Installer Information dialog box appears.



- 22 Click **Yes** to restart your computer

What's next?

Download and apply the latest Service Update from <https://www21.nortelnetworks.com/MPL> (for Europe), or from <https://www43.nortelnetworks.com/MPL> (for North America). Then configure Symposium Web Client on the application server.

Upgrading Internet Explorer 5.5 on the application server

You can use the application server as a client PC. If you choose to do this, you must upgrade the version of Internet Explorer that installs by default with Windows 2000 Server from Version 5.0 to Version 5.5 Service Pack 1 (or higher).

To upgrade to Internet Explorer 5.5 Service Pack 1 (or higher) on the application server

- 1 Open Internet Explorer and, on the menu, click Help About Internet Explorer.

Result: The About Internet Explorer window appears.

- 2 Click **Update Information**.

Result: The Internet Explorer High Encryption Pack window appears in the browser.

- 3 In the **Search** box, type **Internet Explorer 5.5**.

- 4 Click **Search**.

Result: The Search Results window appears.

- 5 Click the latest Internet Explorer 5.5 Service Pack.

Result: The Internet Explorer 5.5 Service Pack and Internet Tools window appears.

- 6 Select the language version of your choice, and then click **Download Now**.

Result: The File Download dialog box appears with the **Save this program to disk** radio button selected by default.

- 7 Click **OK** and save the ie5setup.exe file to the folder of your choice.

Note: You cannot run the ie5setup.exe file from the web site when upgrading the application server. You must save the file on the application server's hard disk.

- 8 Click Start → Settings → Control Panel.

Result: The Control Panel window appears.

- 9 Double-click **Add/Remove** programs.

Result: The Add/Remove programs window appears.

- 10** Double-click **Add New Programs**.

Result: The Add New Programs window appears.
- 11** Click **CD or Floppy**.

Result: The Install Program From Floppy Disk or CD-ROM window appears.
- 12** Click **Next**.

Result: The Run Installation Program window appears.
- 13** Click Browse and navigate to the folder in which you saved the ie5setup.exe file that you downloaded from the Microsoft web site.
- 14** Click **ie5setup.exe**, and then click **Open**.

Result: The Run Installation Program window reappears with the path to the ie5setup.exe file in the Open text box.
- 15** Click **Next**.

Result: The Welcome to Setup for Internet Explorer and Internet Tools window appears.
- 16** Click **I accept the agreement**, and then click **Next**.

Result: The Initializing Setup window appears briefly and is replaced by the Windows Update: Internet Explorer and Internet Tools window.
- 17** Click **Next**.

Result: The Download Sites window appears.
- 18** Select the region from which Windows should get any additional files required for Service Pack 1, and then click **Next**.

Result: The Progress window appears and the installation begins. When the installation is complete, the Restart Computer window appears.
- 19** Click **Finish** to restart your system.

What's next?

Your next step is to configure Internet Explorer. For more information, refer to “Installing and configuring the browser on a client workstation” on page 166.

Installing or repairing individual Symposium Web Client components on the application server

Introduction

You can repair corrupted files for a component in Symposium Web Client by reinstalling that particular component. You can also add new Symposium Web Client components after the initial installation.

Repairing a damaged Symposium Web Client component

You can repair a damaged Symposium Web Client component, using the Add/Remove Programs feature in Windows.

To repair a damaged Symposium Web Client component

- 1 Insert the Symposium Web Client CD in the CD-ROM drive.
- 2 Click Start → Settings → Control Panel.
- 3 Double-click **Add/Remove Programs**.

Result: The Add/Remove Programs window appears.

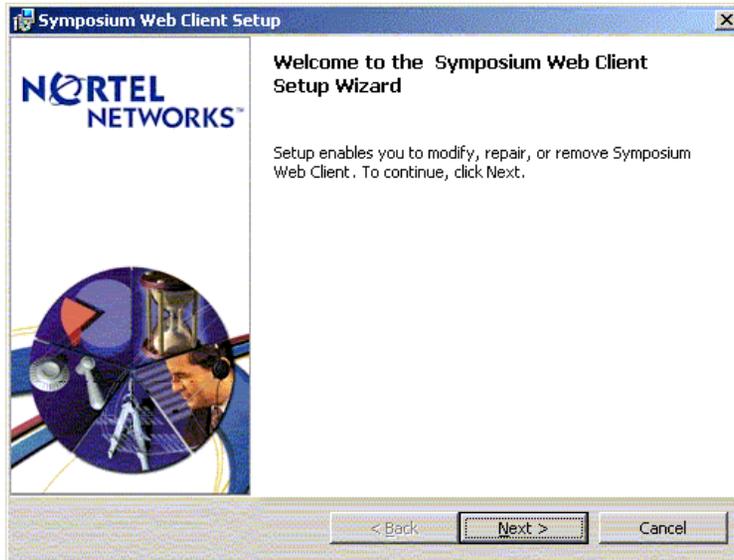
Note: If you double-clicked the Symposium Web Client setup.exe file on the Symposium Web Client CD, or if the setup file launched automatically, the Terminal Services Install Failure dialog box appears. This occurs because Terminal Services must be in Install Mode before you can install an application.

To switch Terminal Services to Install Mode and install Active Directory, select the Add/Remove Programs link in the dialog box. The Add/Remove Programs window appears, and Terminal Services automatically switches to Install Mode.

- 4 Select Symposium Web Client from the list of installed programs.

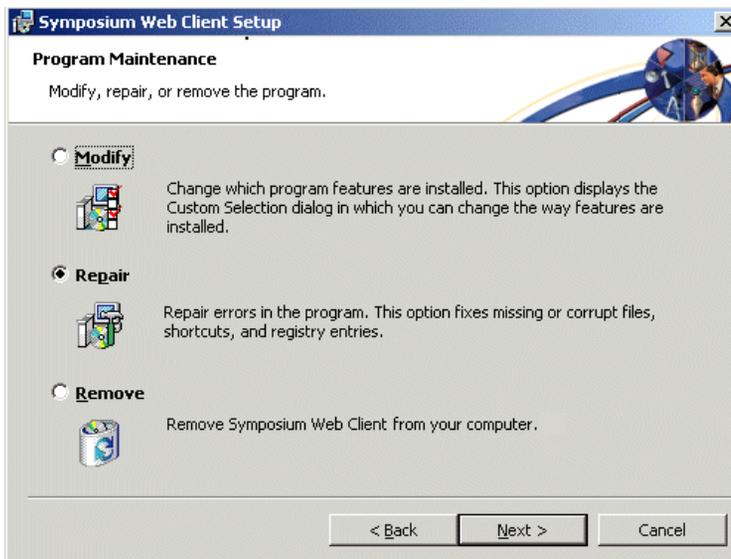
5 Click **Change**.

Result: The Welcome to the Symposium Web Client Setup Wizard window appears.



- 6 Click **Next**.

Result: The Program Maintenance window appears.



- 7 Click **Repair**.

- 8 Click **Next**.

Result: The Ready to Repair the Program window appears.

Note: You do not have to identify which components are malfunctioning. Symposium Web Client checks all of its components to identify those that require repair.

- 9 Click **Next**.

Result: The Repair window appears and the repair process begins. A repair completion message appears when the repair is finished.

- 10 Click **Finish** to close the Repair window.

Result: The Symposium Web Client Installer Information dialog box prompts you to restart your computer.

- 11 Click **Yes** to restart the system.

Installing an individual Symposium Web Client component

To install Real-Time Reporting, Historical Reporting, or Agent Desktop Displays in Symposium Web Client, run the Symposium Web Client installation program, enter a new keycode, and then install the component.

After you add the Historical Reporting component, you must install and configure Simple Mail Transfer Protocol (SMTP) on the application server if you want to take advantage of Historical Reporting's e-mail notification feature. See "To configure the SMTP server" on page 140.

To install an individual Symposium Web Client component

- 1 Insert the Symposium Web Client CD in the application server's CD-ROM drive.
- 2 Click Start → Settings → Control Panel.
- 3 Double-click **Add/Remove Programs**.

Result: The Add/Remove Programs window appears.

Note: If you double-clicked the Symposium Web Client setup.exe file on the Symposium Web Client CD, or if the setup file launched automatically, the Terminal Services Install Failure dialog box appears. This occurs because Terminal Services must be in Install Mode before you can install an application.

To switch Terminal Services to Install Mode and install Active Directory, select the Add/Remove Programs link in the dialog box. The Add/Remove Programs window appears, and Terminal Services automatically switches to Install Mode.

- 4 Select Symposium Web Client from the list of installed programs.
- 5 Click **Change**.

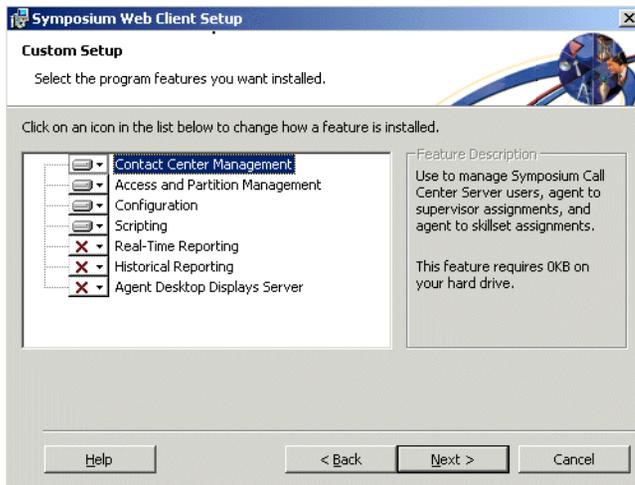
Result: The Welcome to the Symposium Call Center Web Client Setup window appears.

- 6 Click **Next**.

Result: The Program Maintenance window appears with the system default as **Modify**.

7 Click **Next**.

Result: The Custom Setup window appears and lists the Symposium Web Client components. The components that are not installed are preceded by an X.



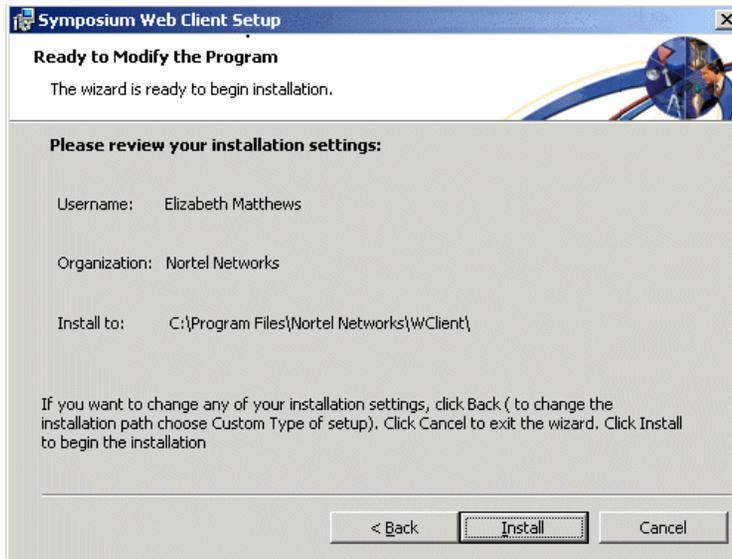
8 Click the drop-down arrow beside the name of the component that you want to add.

Note: You must install individual components from the Symposium Web Client application CD-ROM. You cannot install individual components from an upgrade *setup.exe* file.

9 On the resulting pop-up menu, click **This feature will be installed on local hard drive**.

10 Click **Next**.

Result: The Ready to Modify the Program window appears.

**11** Click **Install**.

Result: The Installing Symposium Call Center Web Client window appears with a status bar that displays the progress of the installation process. When the installation is complete, the Completing Symposium Call Center Web Client Setup Wizard window appears.

12 Click **Finish**.

Result: The Symposium Call Center Web Client Installer Information window appears.

13 Click **Yes** to restart the system.

Uninstalling application server software

Uninstalling a Symposium Web Client component

You can uninstall one or more Symposium Web Client components from the application server using the Windows 2000 Server's Add/Remove Programs feature.

To uninstall a Symposium Web Client component

- 1 Click Start → Settings → Control Panel.
Result: The Control Panel window appears.
- 2 Double-click the **Add/Remove Programs** icon.
Result: The Add/Remove Programs window appears.
- 3 Select Symposium Web Client from the list of installed programs.
- 4 Click **Change**.
Result: The Symposium Web Client Setup window appears.
- 5 Click **Next**.
Result: The Program Maintenance window appears.
- 6 Click **Modify**, and then click **Next**.
Result: The Custom Setup window appears.
- 7 Click the component that you want to remove, and then select **This feature will not be available** from the resulting pop-up menu.
- 8 Click **Next**.
Result: The Ready to Modify the Program window appears.
- 9 Click **Next**.
Result: The Installing Web Client window appears with a status bar that displays the progress of the uninstall process. When the uninstall is complete, the Completing Web Client Setup Wizard window appears.

- 10 Click **Finish**.

Result: The Web Client Installer Information window appears, indicating that you need to restart the application server for your changes to take effect.

- 11 Click **Yes** to restart your computer.

Uninstalling Symposium Web Client

You can uninstall the entire Symposium Web Client application by using the Windows Add/Remove Programs feature.

To uninstall Symposium Web Client from the application server

- 1 Click Start → Settings → Control Panel.

- 2 Double-click the **Add/Remove Programs** icon.

Result: The Add/Remove Programs window appears.

- 3 Select Symposium Web Client from the list of installed programs.

- 4 Click **Change**.

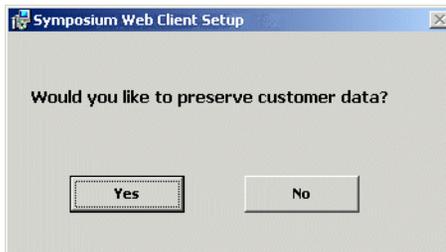
Result: The Symposium Web Client Setup window appears.

- 5 Click **Next**.

Result: The Program Maintenance window appears.

- 6 Click **Remove**, and then click **Next**.

- 7 The Would you like to preserve customer data? window appears.



If you want to preserve your data, click **Yes**. The system copies your file to the following temporary directory:

x:\Documents and Settings\Administrator\Local Settings\Temp\WClient

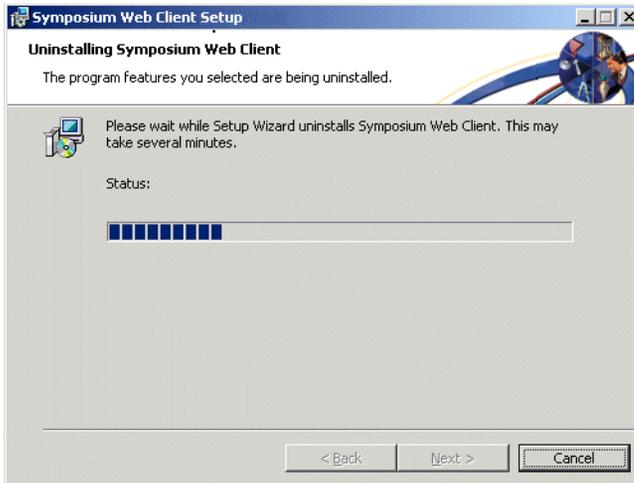
where x is the drive in which Windows 2000 is installed.

ATTENTION _____
If you click **No**, the system deletes all data.

Result: The Remove the Program window appears.

8 Click **Remove**.

Result: The Uninstalling Symposium Web Client window appears.



Result: The Completing the Symposium Web Client Setup Wizard window appears.

9 Click **Finish**.

Result: The Web Client Installer Information window appears, indicating that you need to restart the application server for your changes to take effect.

10 Click **Yes** to restart your computer.

Note: Uninstallation of Web Client does not automatically uninstall Active Directory.

Uninstalling Active Directory

You can uninstall Active Directory by running the Active Directory *dcpromo* program.

ATTENTION

If you are going to *reinstall* Active Directory, you must also uninstall, and then reinstall Terminal Services using Windows 2000 Server's **Add/Remove Windows Component** feature in the Add/Remove Programs window. After you reinstall Terminal Services, then reinstall Active Directory. Then you must also reconfigure Terminal Services. For more information, see "Configuring Scripting" on page 146.

Uninstall/reinstall order:

- 1 Uninstall Active Directory.
- 2 Uninstall Terminal Services.
- 3 Reinstall Terminal Services.
- 4 Reinstall Active Directory.

To uninstall Active Directory

- 1 Click Start → Run.

Result: The Run dialog box appears.

- 2 In the **Open** box, type **dcpromo**.

- 3 Click **OK**.

Result: The Active Directory wizard appears.

- 4 Follow the instructions provided by the Active Directory Installation Wizard.

Upgrading Symposium Web Client

Introduction

You can upgrade your Symposium Web Client software when new Service Updates or Releases become available. When you upgrade to a newer version of the software, you can use the Supplementary CD-ROM, or you can download and apply the latest Service Update from <https://www21.nortelnetworks.com/MPL> (for Europe), or from <https://www43.nortelnetworks.com/MPL> (for North America). You can download the latest installation or documentation addendum from www.nortel-sccs.com. If you are upgrading Symposium Web Client with the latest Service Update, you do not require a keycode because the system upgrades only those components that were already installed on the application server.

After upgrading Symposium Web Client, if you change your mind and want to revert back to the previous version, you cannot uninstall only the upgrade package. You must uninstall the software, and then reinstall the previous version from CD-ROM, plus the previous Service Update.

When you uninstall Symposium Web Client, the system prompts you to preserve user data. If you select **Yes** to preserve user data, then during the reinstallation of Symposium Web Client, the system detects the preserved user data and prompts you to restore the data. The estimated time to complete this is 30 minutes.

Before you upgrade Symposium Web Client, Nortel Networks recommends that you perform a backup of Active Directory and the Symposium Web Client files that contain user data. For more information see, “Backing up and restoring user data” on page 125.

To upgrade Symposium Web Client

- 1 Click Start → Settings → Control Panel.
- 2 Click the **Add/Remove Programs** icon.

Result: The Add/Remove Programs window appears.

- 3 Click **Add New Programs**.

4 Click **CD or Floppy**.

Result: The Install Program From Floppy Disk or CD-ROM window appears.

5 Click **Next**.

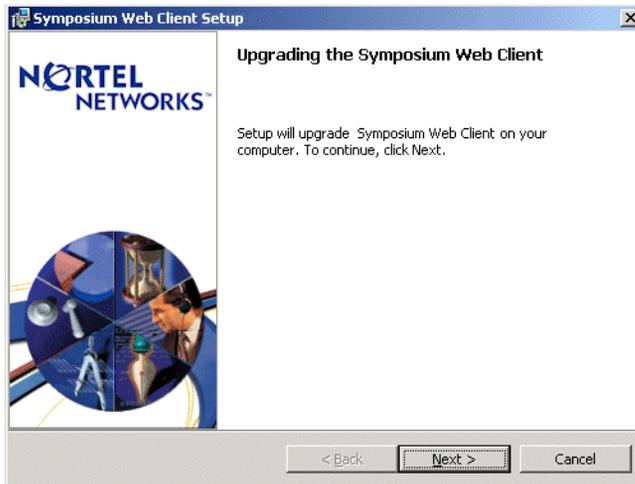
Result: The Run Installation Program window appears.

6 Click **Browse** to navigate to the *setup.exe* file, and then double-click the file.

Result: The path and file name appear in the **Open** box.

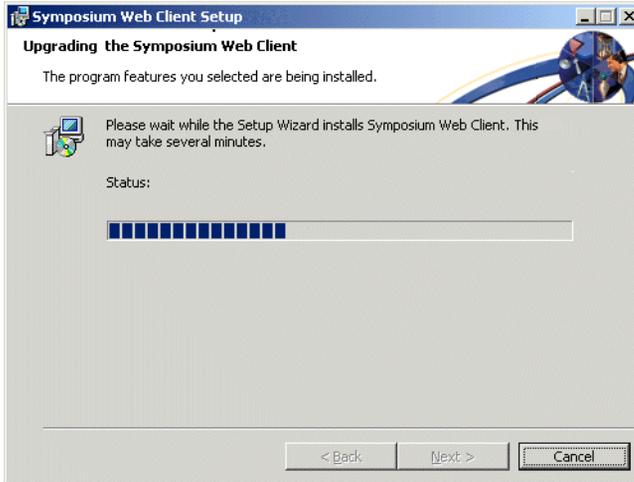
7 Click **Next**.

Result: The Upgrading the Symposium Web Client main setup window appears.

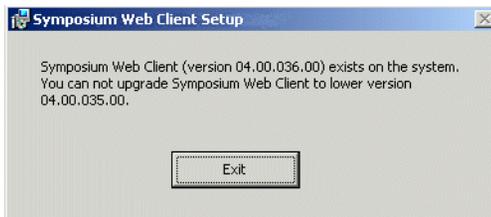


8 Click **Next**.

Result: The Upgrading the Symposium Web Client status window appears, and the system copies new files to the application server.



Note: You cannot upgrade to a previous version of Symposium Web Client. If you attempt to upgrade to a previous version, a message box appears, prompting you to end the upgrade process.



Once the system has copied the files, the Completing the Symposium Web Client Setup Wizard window appears.

9 Click **Finish**.

Result: The Symposium Web Client Installer Information window appears, indicating that you must restart the application server for the upgrade to take effect.

10 Click **Yes**.

Multiple-language support

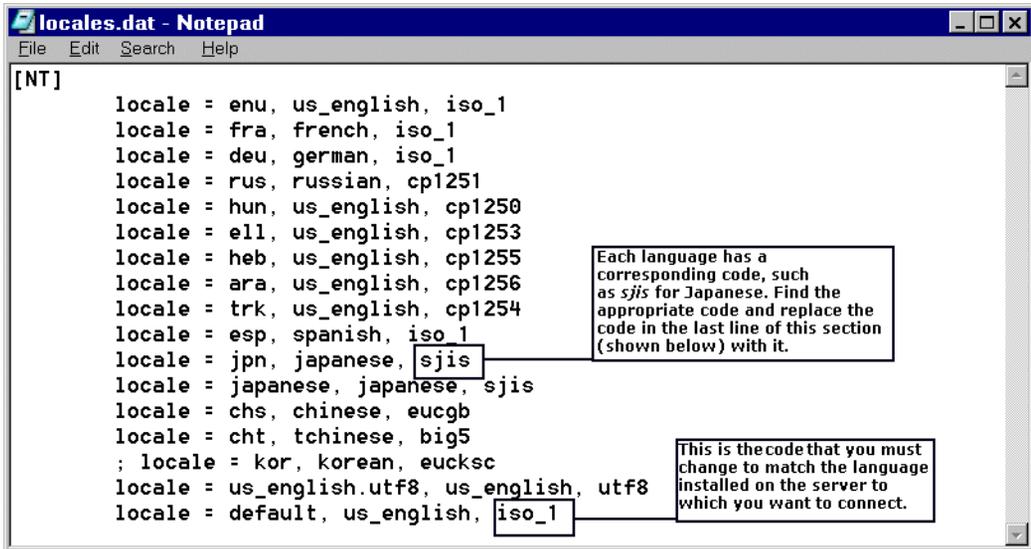
Introduction

You can use Symposium Web Client to connect to a server in Symposium Call Center Server upon which a version of the software other than English has been installed. However, to connect to a server on which a multi-byte character language has been installed (for example, Japanese), you must first perform the following procedure on the Symposium Web Client application server.

Note: Before you perform this procedure, ensure that you have installed Windows 2000 Server with Service Pack 1 (or higher) with multi-language support (or the localized version of Windows 2000 server), all required third-party software (especially Sybase Open Client v.12), and the Symposium Web Client software on the application server.

To configure the application server to support multiple languages

- 1 On the application server, navigate to the following file:
c:/sybase/locales/locales.dat
where *c:* is the drive on which you installed Sybase Open Client v.12.
- 2 Open the locales.dat file with a text editor, such as Notepad.
- 3 Find the section beginning with *[NT]*, as shown in the following graphic:



- 4 Locate the code corresponding to the language installed on the server in Symposium Call Center Server. For example, to connect to a Japanese server, the code, according to the graphic above, is *sjis*.
- 5 Replace the code in the line that lists the default language (the last line of this section of the file, as shown in the graphic above) with the appropriate language code. In this example, you would replace *iso_1* with *sjis*.
- 6 Save the file.
- 7 Close the file.
- 8 Click Start → Settings → Control Panel.
- 9 Double-click Regional Settings.

Result: The Regional Settings Properties panel appears.
- 10 From the drop-down list on the Regional Settings tab, select the appropriate language.
- 11 Click OK to save the new settings.

Backing up and restoring user data

Introduction

You can help your call center to recover from catastrophic events (such as data loss and damage due to disk failures and power outages) by creating a backup of your application server data.

Symposium Web Client makes use of Active Directory and other data files to store user data. Therefore, ensure you back up both Active Directory and the data files listed below. In addition, during the backup, you must ensure that no data is changed between backing up Active Directory and the data files. It is recommended, therefore, that you perform backups during periods of low activity.

Backing up Active Directory

In the Windows 2000 environment, Microsoft provides a backup utility that performs the Active Directory backup as part of the system state data backup. System state data includes interdependent items such as the registry, system startup files, class registration database, certificate services database, file replication service, cluster service, domain name service, and Active Directory. When backing up data using this utility, choose **Only back up the System State data** and save the backup file in a safe location in your network.

For more information, refer to the procedures on Active Directory backup and restore in the Microsoft Windows 2000 Server documentation. As of date of publication, you can view this information at <http://www.microsoft.com/technet/treeview/default.asp?url=/TechNet/prodtechnol/windows2000serv/reskit/distsys/part1/dsgch09.asp>.

You may also want to consult the Microsoft documentation for other backup strategies. One important point to consider when choosing a backup utility is that it must allow you to back up Active Directory data (or system state data). Choose the strategy that is most appropriate for your organization.

Backing up Symposium Web Client data files

In addition to storing user data in Active Directory, Symposium Web Client also stores other user information in various data files. Make sure you back up the files listed below in their respective default paths.

In the following default path,

c:\Program Files\Nortel Networks\WClient\Apps\Reporting\Historical\data

back up these files:

- LimitChecker.mdb
- Netcallbycall.mdb
- nicrpt.mdb
- nicrpt_dms.mdb
- schedule.mdb

In the following default path,

c:\Program Files\Nortel Networks\WClient\Apps\Common\Icedb

back up these files:

- Schedule.mdb
- icelog.mdb

In the following default path,

c:\Program Files\Nortel Networks\WClient\Apps\AccessMgmt\AccessXML

back up this file:

- counter.xml

In addition to the files listed above, you should also back up any files that you have saved on the application server for Web Client operations, such as .rpt files that you have created with Crystal Reports for the user-created historical reports.

Restoring data

Ensure that Active Directory and the data files that you are restoring were backed up at the same time; that is, you must ensure that the user data did not change between backing up Active Directory and the user data files. It is recommended, therefore, that you perform backups during periods of low activity.

Restoring Active Directory

The Microsoft Backup utility also allows you to perform data restore. However, before you proceed, make sure that you have a copy of your system state data backup. Refer to the Microsoft Windows 2000 Server documentation on Active Directory backup and restore procedures for details. As of date of publication, you can view this information at <http://www.microsoft.com/technet/treeview/default.asp?url=/TechNet/prodtechnol/windows2000serv/reskit/distsys/part1/dsgch09.asp>.

You may also wish to consult the Microsoft documentation for other suggested restore strategies. Choose the strategy that is most appropriate for your organization.

Note: You cannot restore a backup image that is older than the *tombstone lifetime* setting because your backup image may contain objects that have already been deleted and cannot be recovered. The *tombstone lifetime* is the number of days that a deleted object is maintained before the garbage collection process permanently removes it from Active Directory. The default value is 60 days. For more information, see the article “Backup of the Active Directory Has 60-Day Useful Life (Q216993)” on the Microsoft web site.

When you restore Active Directory, you can choose to restore it onto the same application server where the backup was created or onto a different application server.

When restoring onto a different application server, because you restore the system state data (which includes registry information) from the “source” server, your “target” server inherits attributes, such as the computer name and IP address. Therefore, these two servers cannot both be active on the same network at the same time. Also, the location of the system root in your target application server should be the same as that in your source application server.

Restoring backed up data onto a server with a different hardware platform

To restore Active Directory onto a target application server that has a different hardware platform, note the following:

- The target server must have the same type of hard disk controllers as the source server; in other words, it must have either Small Computer System Interface (SCSI) or Integrated Drive Electronics (IDE).
- The size of the target server hard disk must be at least as large as that of the source server.
- If your target server has a different video adapter or multiple network adapters, then you must uninstall them before you restart the server. The normal Plug-and-Play functionality makes the appropriate updates once you restart the server.
- To simplify the restore procedure, Nortel Networks recommends that the source and the target application server support the same number of processors.

Restoring Symposium Web Client data files

When restoring data, ensure you restore all files to their original paths, as listed in the previous section on backing up data.

Backing up data from one application server and restoring it onto another

The following section outlines the steps you need to perform to back up Symposium Web Client data from one application server and restore the same data to a brand new application server. You can use this procedure to recover from a system failure should your Symposium Web Client application server fail completely (for example, due to hardware problems).

Note: Make sure you have read the previous sections on backing up and restoring data to understand the requirements of your new application server.

1. Create a system state data backup image of your existing Symposium Web Client application server using the Microsoft Backup utility.
2. Make backup copies of Symposium Web Client data files.
Note: Nortel Networks recommends that you perform these two steps as often as necessary to always have copies of the latest data.
3. Follow the installation instructions listed in the checklists in Chapter 1 to install and configure the Windows 2000 Server operating system, third-party software (such as Microsoft Active Directory and Sybase Open Client), and Symposium Web Client on your new application server.
Note: Nortel Networks recommends that you install all software to the same directories as those used on your original application server.
4. Restore the system state data from the image created in step 1 using the Microsoft Backup utility.
5. Restore Symposium Web Client data files to their original paths.

After completing this final step, you should now be able to start using Symposium Web Client on your new application server. Since this new server has the same computer name and IP address as the original server, ensure that the two servers are not active on the same network at the same time.

Note: You may have third-party software applications other than those mentioned in step 3 installed on your original application server; however, you do not have to install the same applications on your new application server. For a complete list of software requirements on the application server, see “Application server software requirements” on page 24.

Using ghost images

Instead of creating backup images of your application server as outlined above, you can back up and restore data on your application server by using a ghost image. A ghost image is a snapshot of all the information installed on the PC, including the operating system and software applications. There are many third-party applications that you can use to create ghost images of your PC. Use the application recommended by your company.

In the event of a system failure in which your application server is no longer functional, you can restore the ghost image of the original application server onto a new application server. Make sure that the new application server meets the platform requirements detailed in the section “Restoring backed up data onto a server with a different hardware platform” on page 128.

Section D: Configuring the application server

In this section

Overview	132
Configuring Real-Time Reporting	133
Configuring Emergency Help	137
Configuring Historical Reporting	139
Configuring Scripting	146
Configuring Agent Desktop Displays	157

Overview

Introduction

Before you can use Symposium Web Client, you must configure the components you have installed on the application server. The following table provides a high-level overview of items that you must configure:

For the following component	you must configure
Real-Time Reporting	the sending and receiving IP multicast addresses on the application server.
Agent Desktop Displays	the Configuration Parameters window on the application server.
Historical Reporting	SMTP, printers, and file export folders.
Scripting	the Terminal Services user in Active Directory, access rights to the Scripting component, Terminal Services, and the printer.
Emergency Help	the sending IP multicast address that the application server uses to send Emergency Help messages to client PCs.

Configuring Real-Time Reporting

Introduction

For Web Client's Real-Time Reporting component to function properly, you must configure two different IP multicast addresses:

- the application server's *receiving* IP multicast address (the address it uses to *receive* multicast data from Symposium Call Center Server; it is the same as the *sending* IP multicast address on Symposium Call Center Server)
- the application server's *sending* IP multicast address (the address it uses to *send* multicast data)

Note: The application server's sending and receiving IP multicast addresses must be different.

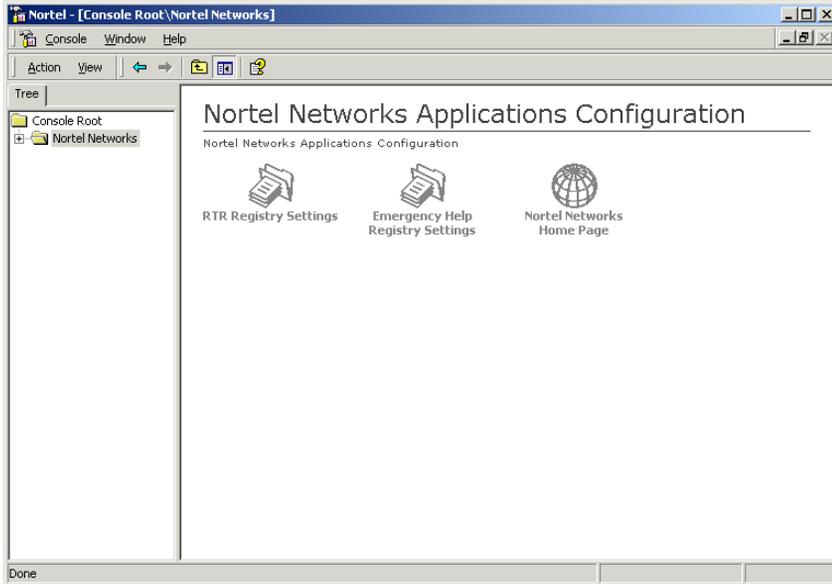
The application server constantly monitors its receiving IP multicast address and directs data as soon as it is available to its sending IP multicast address.

Note: The IP multicast *sending* address must be configured on Symposium Call Center Server.

To configure Real-Time Reporting

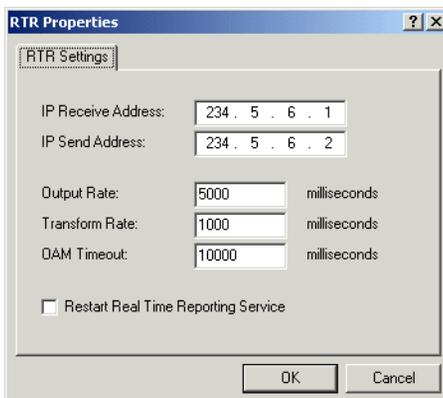
- 1 Click Start → Programs → Symposium Web Client → Configuration.

Result: The Nortel Networks Applications Configuration window appears.



- 2 Click the **RTR Registry Settings** icon in the right pane of the console window.

Result: The RTR Properties window appears.



- 3 In the **IP Receive Address** and **IP Send Address** boxes, type the correct address information. The IP Receive address in Symposium Web Client must be the *same* as the IP send address in Symposium Call Center Server; however, it must be *different* from the IP Send address in Symposium Web Client.

ATTENTION

If the server in Symposium Call Center Server is part of a networked call center, all servers in Symposium Call Center Server within the network must have the same IP Send address. The IP Receive address for Symposium Web Client must match the common IP Send addresses of the servers in Symposium Call Center Server.

- 4 Accept the default values in the **Output Rate** box (5000) and the **Transform Rate** box (1000). You can adjust the default values; however, reducing the Output Rate value and the Transform Rate value increases the workload on the application server.

Note: The rate at which real-time statistics from Symposium Call Center Server reaches the end user in Symposium Web Client is a combination of the following settings:

- the Multicast Rate at which data is sent from Symposium Call Center Server to the Symposium Web Client application server (for more information on Multicast Rates, see “Modifying RSM settings and multicast rates” on page 55)
- the Output Rate at which the application server outputs data to client PCs
- the Transform Rate at which the application server processes data

If you want to decrease the length of time required for real-time statistics to reach client PCs, you can decrease the Output Rate and Transform Rate values; however, this will impact performance on the application server.

You should notify users of the Real-Time Reporting component of these rates. Users should set the Refresh Rate in Real-Time Reporting equal to or greater than the sum of the Multicast Rate, the Output Rate, and the Transform Rate.

- 5 Accept the default value in the **OAM Timeout** box (10 000).

ATTENTION

You may have to increase this value if the following occurs:

When creating or viewing a partition in Access and Partition Management, you cannot see any partition elements in the right pane. This can occur when there is a large amount of data stored on Symposium Call Center Server and the network is slow. If you increase the OAM Timeout value, it provides more time for the partition elements to be collected on a per-server basis. It is recommended that you increase this value in increments of 10 000 (milliseconds).

- 6 Click the **Restart Real Time Reporting Service** check box so that it is checked.
- 7 Click **OK**.
Result: The Restart ICERtdService status window appears while the service is restarting, and closes once the service has restarted successfully.
- 8 Click Console → Exit to close the Nortel Networks Applications Configuration window.

What's next?

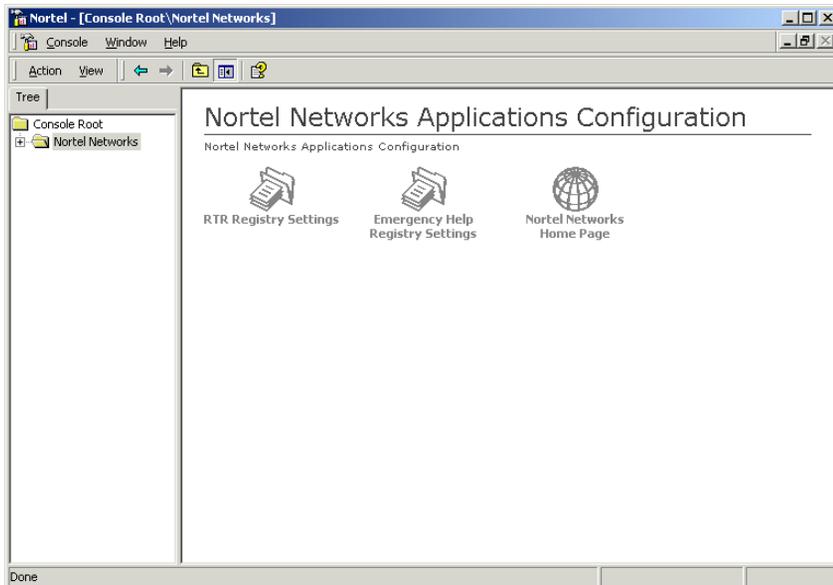
Configure Emergency Help on the application server. See “Configuring Emergency Help” on page 137 for more information.

Configuring Emergency Help

To configure Emergency Help

- 1 Click Start → Programs → Symposium Web Client → Configuration.

Result: The Nortel Networks Applications Configuration window appears.



- 2 Click the **Emergency Help Registry Settings** icon.

Result: The EH Properties window appears.



- 3 In the **IP Send Address** box, type the IP address to which the Web Client application server sends Emergency Help information.
- 4 Click the **Restart Emergency Help Service** check box.
- 5 Click **OK**.

If you do not click the Restart Emergency Help Service check box, the system prompts you to do so.

What's next?

Configure Historical Reporting on the application server. See “Configuring Historical Reporting” on page 139 for more information.

Configuring Historical Reporting

Introduction

To ensure that the Historical Reporting component functions properly in the Symposium Web Client application, you must complete the following tasks:

- Verify that SMTP is installed.
- Configure SMTP.
- Set up a default printer on the application server.
- Set up a shared folder for exporting files.

When the Historical Reporting component generates a scheduled report, it can send an e-mail notification to report recipients. To ensure that Historical Reporting sends an e-mail to the appropriate individual when a report is ready, you must install and configure a Simple Mail Transfer Protocol (SMTP) server on the application server.

Note: To use SMTP, Internet Information Services (IIS) and Microsoft Active Directory must be installed on the application server. For more information, see “System requirements” on page 23.

To verify that an SMTP server is installed

- Click Start → Programs → Administrative Tools → Internet Services Manager. The Internet Information Services window appears.
- Click the plus sign (+) beside the name of the Symposium Web Client application server.
If one of the branches that appears on the application server tree is Default SMTP Virtual Server, an SMTP server is installed.

Once you have verified that SMTP is installed, you can configure the SMTP server to send e-mail notifications from Historical Reporting.

To configure the SMTP server

To configure the SMTP server, you must provide a domain name and a host name to indicate where Web Client should send e-mail notifications.

- 1 Click Start → Programs → Administrative Tools → Internet Services Manager.

Result: The Internet Information Services window appears, displaying the domain tree in the left pane.

- 2 Click the plus sign (+) beside the name of the Web Client application server to expand the application server tree.

- 3 Right-click the Default SMTP Servers branch, and then select **Properties** from the resulting pop-up menu.

Result: The Default SMTP Virtual Server Properties window appears.

- 4 Click the **Delivery** tab.

- 5 Click **Advanced**.

Result: The Advanced Delivery window appears.

- 6 In the **Fully qualified domain name** box, type the domain name of the Web Client application server:

<computername>.<computername>.<domain name>.com

Example: pcbox123.pcbox123.softwarehouse.com

- 7 Click **Check DNS** to validate the domain name.

- 8 In the **Smart Host** box, type the host name of the Microsoft Exchange server.

Note: The Smart Host name should be the name of a valid mail server. If you are unsure of the name of your mail server, and your company uses Microsoft mail server software, you can check the name of your mail server by opening the Mail dialog box in Control Panel on a client PC with e-mail services.

- a. Click Start → Settings → Control Panel.

- b. Double-click the **Mail** icon.

Result: An MS Exchange Settings Properties dialog box appears.

- c. Click the **Services** tab.

To set up a default printer

To print scheduled reports from the Historical Reporting component and scripts from the Scripting component, you must add and configure a local printer on the application server while logged on as the administrator.

Note: Once the printer is configured on the application server, the administrator must remain logged on to the application server for users to access the printer.

If you require additional information on adding printers, contact Microsoft or your network administrator, or consult your Microsoft documentation. The procedure that you need to use depends on the network configuration of your call center. Consult your Microsoft documentation or the online Help in Windows 2000 for proper printer setup and configuration. Click Start → Programs → Administrative Tools → Configure Your Server → Print Server → Learn More, and then type **Choosing and configuring a port** in the Search box.

The following procedure is valid for network printers that have a standard TCP/ IP protocol, or that use a Hewlett-Packard Jet Direct card.

- 1 Click Start → Settings → Printers.
Result: The Printers window appears.
- 2 Double-click the **Add Printer** icon.
Result: The Add Printer window appears.
- 3 Click **Next**.
Result: The Local or Network Printer window appears.
- 4 Accept the default so that **Local Printer** is selected.
- 5 Deselect the **Automatically detect and install my Plug and Play printer** check box.
- 6 Click **Next**.
Result: The Select the Printer Port window appears.
- 7 Select **Create a new port**.
- 8 From the **Type** drop-down list, select **Standard TCP/IP Port**.
- 9 Click **Next**.
Result: The Welcome to the Add Standard TCP/IP Port Wizard window appears.

10 Click **Next**.

Result: The Add Port window appears.

11 In the **Printer Name or IP address** box, type the printer IP address.

Result: The system populates the **Port Name** box with the appropriate port name.

12 Click **Next**.

Result: The Completing the Add Standard TCP/IP Printer Port Wizard window appears.

13 Click **Finish**.

Result: After a few moments, the Add Printer Wizard window reappears.

14 In the **Manufacturer** and **Printer** boxes, select the appropriate information for your printer.

15 Click **Next**.

Result: The Name Your Printer window appears.

16 Type the printer name.

Result: The Printer Sharing Window appears.

17 Accept the default with **Share as** selected.

18 Click **Next**.

Result: The Location and Comment window appears.

19 Type information in the **Location** box and **Comment** box (optional).

20 Click **Next**.

Result: The Print Test Page window appears.

21 Click **Yes** to print a test page.

Result: The Completing the Add Printer Wizard window appears.

22 Click **Finish**.

To set up a default printer on a print server other than the application server

The following procedure outlines how to set up a default printer that is connected to a print server other than the application server (for example, a UNIX server). You perform the procedure on the application server by pointing to the print server on your network.

Note: If the print server is a UNIX computer, you must select an LPR port when configuring the printer on the application server. If the LPR port is not among the options listed in the Add Printer wizard, you must first install Print Services for UNIX on the application server. You can install this utility from the Windows 2000 Server CD by clicking Add/Remove Programs → Windows Components → Other Network File and Print Services. Click **Details**, and in the resulting dialog box, select **Print Services for Unix**. Click **OK** to install the utility. When the installation is complete, proceed with adding the default printer.

- 1 Click Start → Settings → Printers.
Result: The Printers window appears.
- 2 Double-click the **Add Printer** icon.
Result: The Add Printer Wizard appears.
- 3 Click **Next**.
Result: The Local or Network Printer window appears.
- 4 Accept the default so that **Local Printer** is selected.
- 5 Clear the **Automatically detect and install my Plug and Play printer** check box.
- 6 Click **Next**.
Result: The Select the Printer Port window appears.
- 7 Click **Create a new port**.
- 8 From the Type drop-down list, select **LPR port**.
- 9 Click **Next**.
Result: The Add LPR Compatible Printer window appears.
- 10 In the **Name or address of server providing lpd** box, type the DNS name or IP address of the print server.

- 11 In the **Name of printer or print queue on that server** box, type the name of the printer as it is identified by the host, which is either the direct-connect printer or the UNIX computer.
- 12 Click **OK** to close the window and return to the Wizard.
- 13 Follow the remaining prompts in the wizard to finish installing the printer.

To export files from Historical Reporting

To the application server

If you want to export report files to the Web Client application server, you must create a shared folder with full access rights on the application server.

To a client PC

If you want to export report files to a client PC, you must create a shared folder with full access rights on the client PC that belongs to the same domain as the application server. Then, from the application server, you must map to the client PC's shared folder.

If you require additional information on creating and mapping folders, see your Microsoft documentation.

What's next?

Configure Scripting on the application server. See "Configuring Scripting" on page 146 for more information.

Configuring Scripting

Introduction

To use the Scripting component, you must perform the following procedures:

- Configure the Terminal Services user account in Active Directory.
- Provide access rights to the Scripting component.
- Configure Terminal Services.
- Activate the Terminal Services License Server.
- Set up a default printer on the application server.

Accessing Scripting

To access the Scripting component, users must connect to the application server using Terminal Services. You must configure a unique Terminal Services user account in Active Directory, and grant this user certain access rights and permissions to the Scripting component that resides on the application server.

ATTENTION

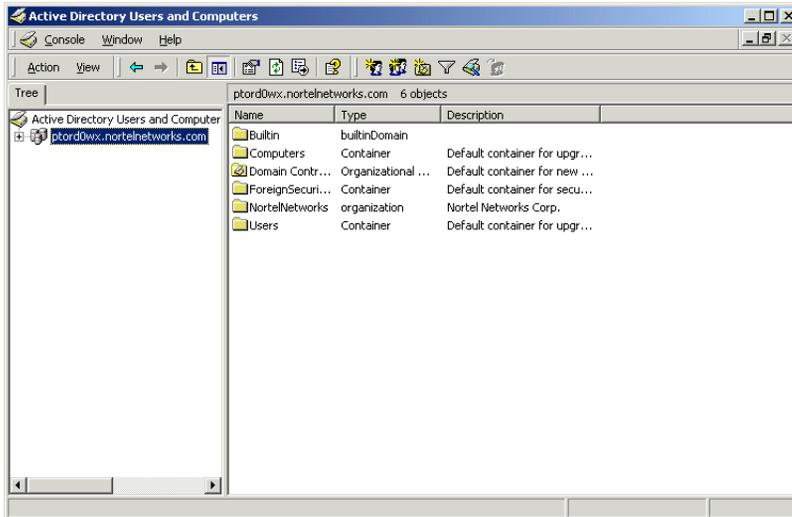
As of date of publication, the following information on Client Access Licensing was available from Microsoft. Consult Microsoft for the latest information. Nortel Networks does not accept any liability for end-user compliance with Microsoft licensing agreements. This information has been provided for your convenience.

- You must purchase from Microsoft both a Terminal Services Client Access License and a Windows 2000 Server Client Access License for *each* client PC running on Windows 95, 98, NT, or ME that will be accessing the Script Manager portion of the Scripting component.
- Client PCs running on Windows 2000 only require a Windows 2000 Server Client Access License; they do not require a separate Terminal Services Client Access License.
- Nortel Networks does not provide these Client Access Licenses.
- The Windows 2000 Server Client Access Licenses do not float (that is, they are specific to the client PCs for which they have been purchased).
- If the client PC is accessing only Script Variables or Application Thresholds, then these licenses are not required.

To configure the Terminal Services user account in Active Directory

- 1 Click Start → Programs → Administrator Tools → Active Directory Users and Computers.

Result: The Active Directory Users and Computers window appears.



- 2 In the **Tree** tab, click the plus sign (+) beside the application server's domain name to expand the tree, and then click the Users folder.
- 3 On the **Name** column, right-click the user name **TsInternetUser**, and then select All Tasks → Reset Password.

Result: The Reset Password window appears.

- 4 In the **New Password** and **Confirm Password** boxes, type the **TsInternetUser** password.
- 5 Ensure that the **User must change password at next logon** check box is unchecked.
- 6 Click **OK**.

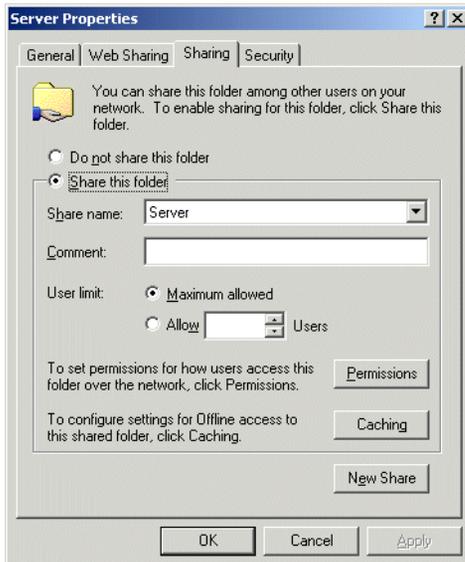
Result: The Active Directory confirmation box appears, confirming that the TsInternetUser password has changed.

- 7 Click **OK** to close the window.

- 8 In the Active Directory Users and Computers window, right-click **TsInternetUser** and select **Properties**.
Result: The TsInternetUser Properties window appears.
- 9 Click the **Member Of** tab.
- 10 In the **Member of** list box, select **Guests**, and then click **Remove**.
Result: The Remove user from group confirmation box appears.
- 11 Click **Yes**.
- 12 Click **Apply**.
- 13 Click **OK** to close the window.
- 14 In the Active Directory Users and Computers window, click Console → Exit to close the window.

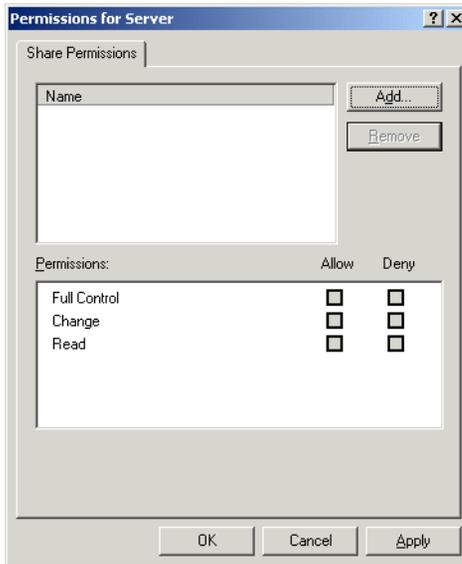
To provide access rights to the Scripting component

- 1 Navigate to the following folder:
c:\Program Files\Nortel Networks\WClient\Server
where c: is the drive in which Symposium Web Client is installed.
- 2 Right-click the **Server** folder, and then select **Properties** from the resulting pop-up menu.
- 3 Click the **Sharing** tab.



- 4 Click **Share this folder**.
- 5 In the **Share name** box, confirm the folder name.
- 6 Click **Permissions**.

Result: The Permissions for Server window appears.



- 7 Click **Add**.

Result: The Select Users, Computers or Groups window appears.

- 8 From the list of users, select **TsInternetUser**.

- 9 Click **Add**.

Result: The TsInternetUser is added to the box in the lower half of the window.

- 10 Click **OK** to close the window.

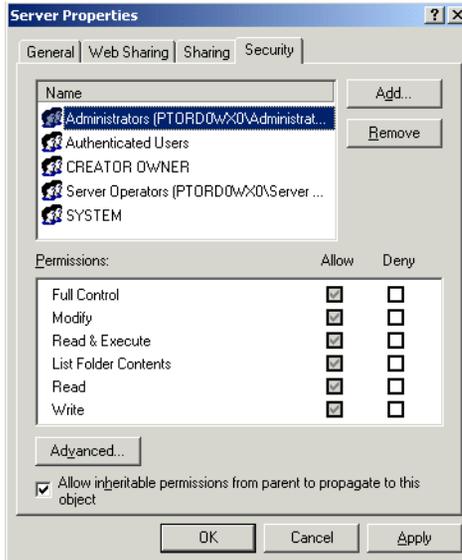
- 11 In the Permissions for Server window, select **TsInternetUser**.

- 12 In the Permissions box, click the **Read** check box in the **Allow** column to ensure that the TsInternetUser has read-only access.

- 13 Click **Apply**.

- 14 Click **OK** to close the window.

- 15 Click the **Security** tab.



16 Click **Add**.

Result: The Select Users, Computers or Groups window appears.

17 Select **TsInternetUser**.

18 Click **Add**.

Result: The user name TsInternetUser appears in the lower half of the window.

19 Click **OK** to close the window.

20 In the Server Properties window, select **TsInternetUser**.

21 In the **Permissions** box, click all check boxes in the **Allow** column to ensure that the TsInternetUser has full access.

22 Select **Everyone**.

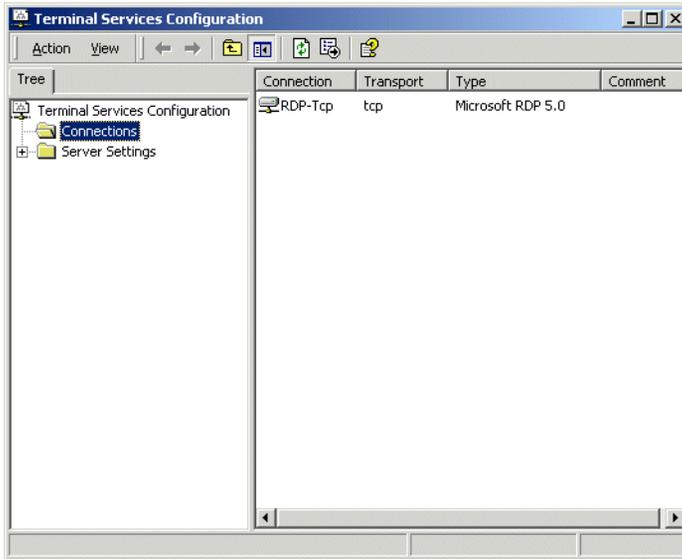
23 Click **Remove**.

24 Click **Apply**.

25 Click **OK** to close the window.

To configure Terminal Services

- 1 Click Start → Programs → Administrator Tools → Terminal Services Configuration.
- 2 The Terminal Services Configuration window appears.

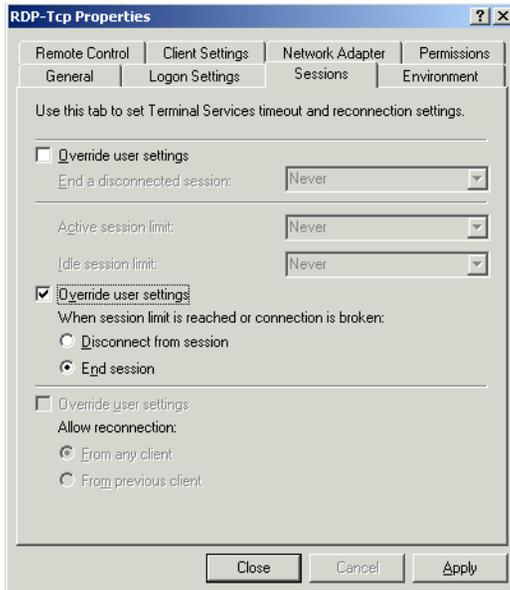


- 3 Double-click the **RDP-Tcp** icon in the right side of the window.
Result: The RDP-Tcp Properties window appears.
- 4 Click the **Logon Settings** tab.
- 5 Click **Always use the following logon information**.
- 6 In the **User name** box, type **TsInternetUser**.
- 7 In the **Password** and **Confirm password** boxes, type the password you created in Step 4 on page 148.
- 8 Deselect **Always prompt for password** to remove the check mark.

Note: By deselecting **Always prompt for password**, users accessing the Script Manager/Editor will not be prompted for the user ID and password. However, if you are concerned about security, you may want to select this option to restrict client PCs with the Terminal Services Client application from directly accessing the application server. When **Always prompt for**

password is selected, all users are prompted to enter the user ID and password each time they start the Script Manager/Editor.

- 9 Click **Apply**.
- 10 Click the **Sessions** tab.



- 11 Click the *second* **Override user settings** check box, and then click **End session**.
- 12 Click **Apply**.
- 13 Click **Close**.
- 14 Exit the Terminal Services Configuration window.
- 15 Click **OK** to close the Terminal Services Configuration window.

To activate the Terminal Services License Server

The installation of Terminal Services provides you with the Terminal Services software for a 90-day evaluation period only. Before the 90 days expire, you must purchase both a Windows 2000 Server Client Access License and a Terminal Services Client Access License from Microsoft to continue to use the

Scripting component beyond the evaluation period. To ensure that the licensed clients can continue to access Scripting beyond this period, you must also activate the Terminal Services License Server on the application server with a license server ID provided by Microsoft.

- 1 On the application server, click Start → Programs → Administrator Tools → Terminal Services Licensing.

Result: The Terminal Services Licensing window appears.

- 2 In the window, right-click the application server icon, and then choose **Activate Server** from the pop-up menu.

Result: The Licensing Wizard starts.

- 3 Follow the prompts in the wizard to connect to Microsoft, obtain the license server ID, and activate the License Server.

To set up a default printer for Scripting

To print scripts while using the Web Client Scripting component, you must first configure a local printer on the application server while logged on to Windows 2000 as the administrator. For detailed information on this procedure, see “To set up a default printer” on page 142.

Note: Once the printer is configured on the application server, you must log on to the application server as the administrator for users to access the printer.

To export scripts

To the application server

If you want to export script files to the Web Client application server, you must create a shared folder with full access rights on the application server.

To the client PC

If you want to export script files to a client PC, you must create a shared folder with full access rights on the client PC that belongs to the same domain as the application server. Then, you must log on to the application server as **TsInternetUser**, and map to the client PC's shared folder.

What's next?

Configure Agent Desktop Displays on the application server. For more information, see “Configuring Agent Desktop Displays” on page 157.

Configuring Agent Desktop Displays

Introduction

To use Agent Desktop Displays on a client PC, you must configure the parameters on the application server. You must also have the Real-Time Reporting component installed and configured on the application server for Agent Desktop Displays to function properly.

To configure Agent Desktop Displays

- 1 Click Start → Programs → Symposium Agent Displays → Server Configuration Parameters.

Result: The Configuration Parameters window appears.

Configuration Parameters

IP multicast address: 234.5.6.30

Refresh rate (seconds): 5

Max agents: 1000

View mode: Interval-to-date

Statistics Configuration

Statistics	Display Name	Show
Agents Not Ready	NOTRDY AGENTS	<input checked="" type="checkbox"/>
Agents In Service	INSRV AGENTS	<input checked="" type="checkbox"/>
Calls Waiting	CALLS WAIT	<input checked="" type="checkbox"/>

Column order: [up] [down]

Threshold configuration of Agents Not Ready

The threshold levels are those defined on Symposium Call Center Server.

Less than Level 1: Green

Between Level 1 and Level 2: Yellow

Greater than Level 2: Red

Blink Beep

Once Continuously

- 2 Confirm that the address in the **IP multicast address** box is the application server's IP send address that you configured in the RTR Configuration Tool. For more information, see "Configuring Real-Time Reporting" on page 133.

- 3 In the **Refresh rate (seconds)** box, type the rate in seconds at which you want the real-time data in the displays to be refreshed.

Note: The minimum value that you can type in this field is 2 seconds. If you do not type a value in this box, the system uses the default value of 5 seconds.

- 4 In the **Max agents** box, type the maximum number of agents who can simultaneously log on to the Symposium Agent Desktop Displays component and view the real-time statistics.

Note: When the number of agents who have logged on to the application reaches this number, any additional agents who try to log on will receive a message informing them to try again later. If you do not type a value in this box, the system uses the default value of 1000 agents. The maximum value that you can type in this box is 3000 agents.

- 5 In the **View mode** drop-down list, select the mode in which you want to view the data that has been collected:

- **Moving window:** In moving window mode, statistics shown represent the last 10 minutes of system activity.
- **Interval-to-date:** In interval-to-date mode, statistics are collected only for the current interval. When the interval is over, data fields reset to 0 and collection begins for the next interval. The interval can correspond to a work shift or to another system-defined period.

- 6 In the **Statistics Configuration** table, choose the statistics that you want to appear in the Agent Desktop Displays. You can add statistics columns to the displays, or remove columns that you no longer want to show.

- 7 Click the check box in the **Show** column if you want to add the statistics column to the displays.

- 8 Arrange the order in which the statistics columns will appear by using the column order buttons. Select the statistic that you want to move, and then click the up or down button to change its position.

Note: The statistic that you place at the top of the **Statistics Configuration** table appears in the first column of the display.

- 9 Select the three threshold colors for the selected statistic from the Threshold display colors drop-down lists. Select the statistic and use colors to identify whether the value of the statistic shown in the display is less than

the low value, between the low and high value, or greater than the high value.

Note: If you have not set the threshold levels in the Configuration component of Web Client or in Symposium Call Center Server, the values appear in white in the Symposium Agent Desktop Displays.

- 10 Click the **Blink** check box if you want the selected statistic to blink in the Agent Desktop Display when its value reaches the threshold.
- 11 Click the **Beep** check box if you want the Agent Desktop Display to beep when its value reaches the threshold.
- 12 Click **Once** to indicate that a beep should occur only once, or click **Continuously** to indicate that a beep should occur continuously until the statistic reaches an acceptable value.
- 13 Click **Save**.

What's next?

Configure your client PC. For more information, see “Installing and configuring client software” on page 161. Once you install and configure client applications, you can log on to Symposium Web Client to add and configure servers in Symposium Call Center Server using the Configuration component. See “Adding and configuring call center servers” on page 196 for more information.

Chapter 4

Installing and configuring client software

In this chapter

Installing third-party software on a client	162
Installing and configuring Agent Desktop Displays on a client PC	172

Installing third-party software on a client

Introduction

Each client PC in Symposium Web Client requires different third-party software, depending on which platform the client runs:

- Microsoft Data Access Components (MDAC) v.2.5 (Windows 95, Windows 98, Windows NT 4 SP 6a Workstation clients only)
- Windows Socket 2 (Windows 95 clients only)
- Internet Explorer v.5.5 with Service Pack 1 or higher (all clients)
- True DB Grid Pro (all clients using Scripting)
- Terminal Services Active X Control (all clients using Scripting)

Note: You must configure the Display settings on the client PC's monitor. Click Start → Settings → Control Panel. Double-click **Display**, and then click the **Settings** tab. In the **Font size** drop-down box, select **Small Fonts**. If you do not select **Small fonts**, some items may not display correctly in the browser.

Installing Microsoft Data Access Components

Microsoft Data Access Components (MDAC) facilitates the exchange of data between Real-Time Displays in Web Client and Symposium Call Center Server. MDAC version 2.5 must be installed on each client that accesses the Real-Time Reporting component.

Note: If the client PC runs on the Windows 2000 operating system, you can skip the instructions in this section because MDAC version 2.5 is included in this operating system. MDAC version 2.5 is *not* included in Windows 95, Windows 98, or Windows NT 4 SP 6a Workstation.

If you are uncertain whether the correct version of MDAC is installed on the client PC, perform the following procedure.

To verify that Microsoft Data Access Components v.2.5 is installed on a client

- 1 Navigate to the following path:

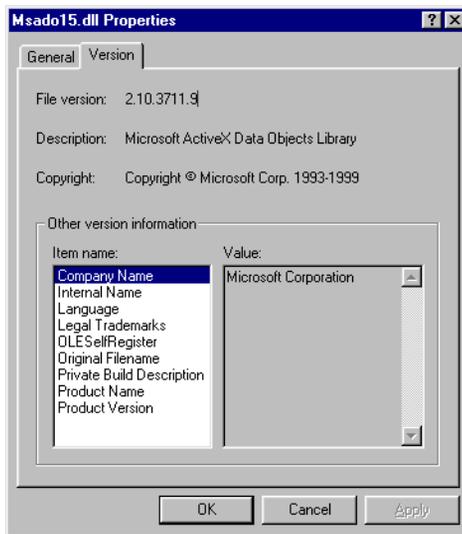
[x:]\Program Files\Common Files\System\ado

where x is the drive on which the operating system is installed.

- 2 Right-click the file called **msado15.dll**, and then click **Properties** on the pop-up menu.

Result: The Msado15.dll Properties window appears.

- 3 Click the **Version** tab and check the value in the **File version** field.



If the version number is not 2.5 or greater, you must install MDAC v.2.5 on the client.

To install Microsoft Data Access Components v.2.5 on a client

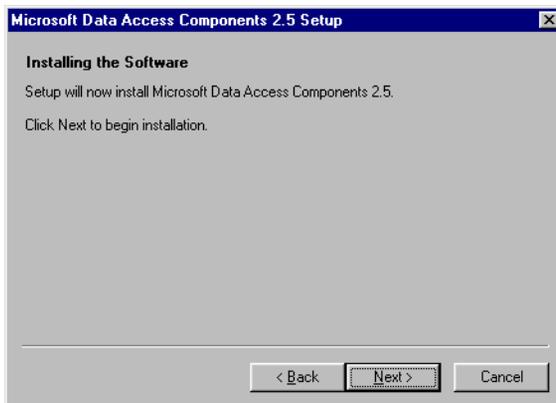
- 1 Navigate to the Win95-98 Extralnstall directory on the Symposium Web Client installation CD.
- 2 Double-click **Mdac25.exe**.

Result: The Microsoft Data Access Components 2.5 Setup window appears.



- 3 Click the **Yes, I accept all of the terms of the preceding license agreement** check box.
- 4 Click **Next**.

Result: The Installing the Software window appears.



5 Click Next.

Result: The Installing Components window appears. As files are copied to your system, a Copying Files dialog box appears. When all of the required files are copied, the Setup is Complete window appears.

**6 Click Finish.**

Result: MDAC v.2.5 is installed on the client.

Installing Windows Socket 2 on a Windows 95 client

Windows 95 client PCs require Windows Socket 2 to support Real-Time Reporting in Internet Explorer.

Note: You can skip the instructions in this section for client PCs that are using the Windows 2000, Windows 98, or Windows NT operating system. Windows Socket 2 is already installed as part of these operating systems. Windows Socket 2 is *not* included in Windows 95.

To install Windows Socket 2 on a Windows 95 client

- 1 Navigate to the Win95-98ExtraInstall directory on the Symposium Web Client installation CD.
- 2 Double-click **Winsocket2.exe**.

Result: The Windows Socket 2 installation begins. When installation is complete, a successful notification dialog box appears.



- 3 Click **OK**.

Note: The Windows Socket 2 Setup will not restart your system for you. You must shut down Windows and restart using the Start menu.

Installing and configuring the browser on a client workstation

To access Symposium Web Client with a client PC, you must first install and configure the browser (Internet Explorer 5.5 with Service Pack 1 or higher) on each client workstation.

You can install Internet Explorer 5.5 Service Pack 1 (or higher) directly from the CD-ROM; however, if you already have a different version of Internet Explorer on your PC, you need to *upgrade* to Internet Explorer 5.5 first and then install the Service Pack. If you do not have Internet access, you can obtain Internet Explorer 5.5 upgrade and Service Pack on CD-ROM from Microsoft. If you do have Internet access, you can upgrade using the Update Information link on the Help → About Internet Explorer menu.

To upgrade to Internet Explorer 5.5 Service Pack 1 (or higher)

- 1 Open Internet Explorer, and then click Help → About Internet Explorer on the menu.

Result: The About Internet Explorer window appears.

- 2 Click **Update Information**.

Result: The Internet Explorer Home Page appears in the browser.

- 3 Click **Download**.

Result: The Microsoft Windows Update for Internet Explorer page appears.

- 4 Scroll down to the **Recommended Updates** section of the page, and then click the latest Internet Explorer 5.5 Service Pack.

Result: The Internet Tools page appears.

- 5 Select the language version of your choice, and then click **Download Now**.

Result: The File Download dialog box appears with **Save this program to disk** selected by default.

- 6 Click **Run this program from its current location**, and then click **OK**.

Result: The Security Warning dialog box appears, prompting you to confirm your decision to install and run the program.

- 7 Click **Yes**.

- 8 The Welcome to Setup for Internet Explorer and Internet Tools window appears.

- 9 Click **I accept the agreement**, and then click **Next**.

Result: The Initializing Setup window appears briefly and is replaced by the Windows Update: Internet Explorer and Internet Tools window with **Install Now - Typical set of components** selected as the default.

- 10 Click **Next**.

Result: The Preparing Setup window appears.

- 11 Click **Next**.

- 12 The Download Sites window appears.

- 13 Select the region from which Windows should get any additional files, and then click **Next**.

Result: The Progress window appears and the installation begins. When the installation is complete, the Restart Computer window appears.

- 14 Click **Finish** to restart your system.

To configure Internet Explorer

- 1 Start Internet Explorer v.5.5.

- 2 From the menu bar, select Tools → Internet Options.

Result: The Internet Options window appears.

- 3 Click the **Security** tab.
- 4 Click the **Trusted Sites** icon.
- 5 Click **Custom Level**.
Result: The Security Settings window for trusted sites appears.
- 6 Under the **ActiveX controls and plug-ins** heading, ensure that **Enable** is selected for all ActiveX controls and plug-ins options.
Note: If you do not ensure that **Enable** is selected for all ActiveX controls and plug-ins, the browser displays a Security Warning window when you first access a web page that needs to download ActiveX controls to your client PC.
- 7 Under the **Cookies** heading, ensure that **Enable** is selected for all of the cookies options.
- 8 Click **OK** to return to the Internet Options window.
Result: A message box appears, asking if you want to change the security settings for the zone.
- 9 Click **Yes**.
- 10 Click **Sites**.
Result: The Trusted Sites window appears.
- 11 Deselect the **Require server verification {https:} for all sites in this zone** check box.
- 12 In the **Add this Web site to the zone** box, enter the server name or IP address for your application server.
- 13 Click **Add**.
- 14 Click **OK** to return to the Internet Options window.
- 15 Click the **Local intranet** icon.
- 16 Click **Custom Level**.
Result: The Security Settings window for the local intranet appears.
- 17 Under the ActiveX controls and plug-ins heading, ensure that **Enable** is selected for all the ActiveX controls and plug-ins options.
- 18 Under the Cookies heading, ensure that **Enable** is selected for all of the cookies options.

19 Click **OK**.

Result: The system displays a warning that you are about to change the security settings for the zone.

20 Click **Yes**.

21 Click the **General** tab.

22 In the Temporary Internet files section, click **Settings**.

Result: The Settings window appears.

23 Under **Check for newer versions of stored pages**, click **Every visit to the page**.

24 Click **OK** to return to the Internet Options window.

25 Click the **Advanced** tab.

26 Under **Browsing**, deselect the **Reuse windows for launching shortcuts** check box.

27 Click **OK** to exit the Internet Options window.

28 Restart Internet Explorer to activate the changes.

Installing third-party Scripting components on a client

Symposium Web Client's Scripting component requires True DB Grid Pro and Terminal Services Active X Control on each client. You can install these directly from the application server.

ATTENTION

You require separate licenses for Terminal Services for each client PC using the Script Editor portion of the Scripting component.

To install True DB Grid Pro on a client

When you run Scripting in Internet Explorer for the first time, the system prompts you to install True DB Grid if it is not already installed on the client PC.

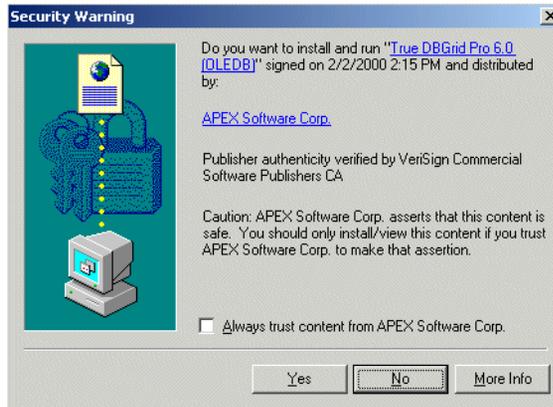
- 1 Log on to Symposium Web Client.

Note: For more information about logging on to Symposium Web Client for the first time, see “To log on to Symposium Web Client for the first time” on page 189.

Result: The Launch Pad appears.

- 2 Click **Scripting**.

Result: When the Scripting window opens in your browser, the system prompts you to install True DBGrid Pro.



- 3 Click **Yes**.

Result: The system installs True DBGrid Pro.

To install Terminal Services Active X Control on a client

When you run Scripting in Internet Explorer for the first time, the system prompts you to install Terminal Services Active X Control if it is not already installed.

- 1 Log on to Symposium Web Client.

Note: For more information about logging on to Symposium Web Client for the first time, see “To log on to Symposium Web Client for the first time” on page 189.

Result: The Launch Pad appears.

- 2 Click **Scripting**. When the Scripting window opens in your browser, the Security Warning dialog box for Terminal Services Active X appears.



- 3 Click **Yes**.

Result: The system installs the Terminal Services Active X Control.

Note: This installation of Terminal Services provides you with the Terminal Services software for a 90-day evaluation period only. Before the 90 days expire, you must purchase a Terminal Services Client Access License from Microsoft to continue to use the Scripting component beyond the evaluation period. The Scripting component does not work without Terminal Services.

Installing and configuring Agent Desktop Displays on a client PC

Introduction

Agent Desktop Displays is a Windows-based tool that provides skillset monitoring to Symposium Call Center Server agents. Agents or supervisors can log on to Agent Displays using their phoneset logon ID and view statistics for each skillset to which they belong.

Agent Desktop Displays' tabular format appears as a window with several columns. This window can be moved, minimized, resized, closed, or set to always stay on top of the desktop like any standard Microsoft window.

Note: If the client operating system is Windows NT 4.0 (Workstation or Server) or Windows 2000, you need Administrator privileges to install Agent Desktop Displays. Windows 95 and Windows 98 operating systems do not require Administrator privileges.

Installing and configuring Agent Desktop Displays on a client PC

To install Agent Desktop Displays on a client PC, run the setup program for the client version of the program, and select the types of displays that you want to install. You must configure the agent displays on each client to connect to the application server, and to the server in Symposium Call Center Server after installation is complete.

To install and configure Agent Desktop Displays on a client PC

- 1 Insert the Symposium Web Client CD into the client PC.
- 2 Click Start → Run.
Result: The Run dialog box appears.
- 3 Click **Browse** to go to the CD-ROM drive on the client.
- 4 Open the Agent Desktop Displays Client folder, and then double-click the setup.exe file.

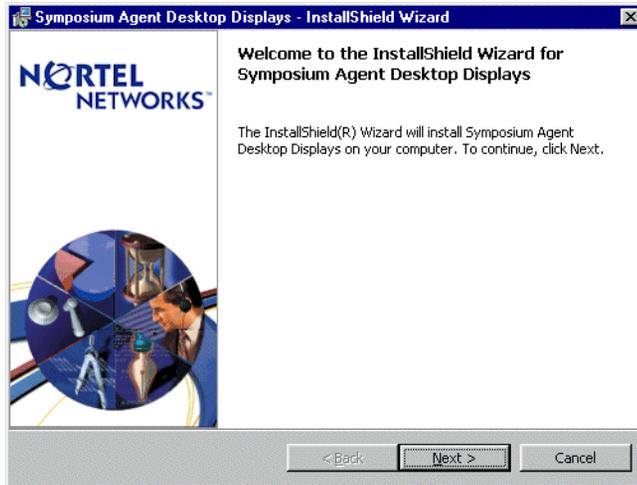
Example

Your path can be

[CD-ROM drive]:\Agent Desktop Displays Client\setup.exe

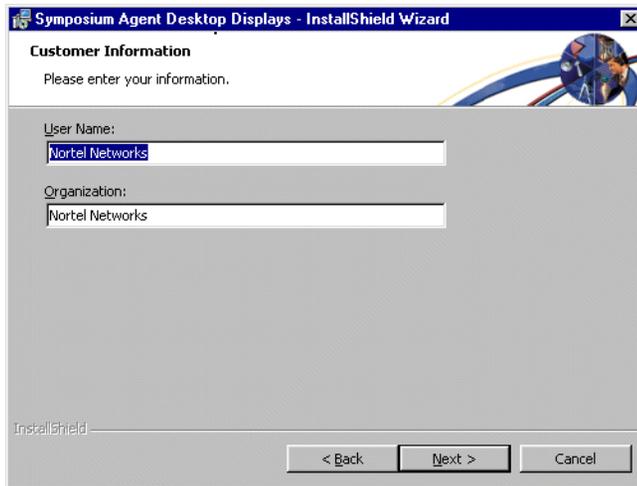
- 5 Click **OK**.

Result: The system prepares for setup and displays the Welcome to the InstallShield Wizard for Symposium Agent Desktop Displays window.

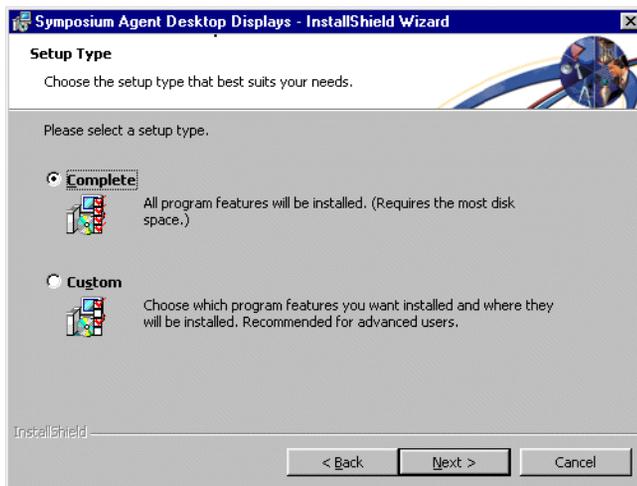


6 Click **Next**.

Result: The Customer Information window appears.

**7** In the **User Name** and **Organization** boxes, type the appropriate information.**8** Click **Next**.

Result: The Setup Type window appears.

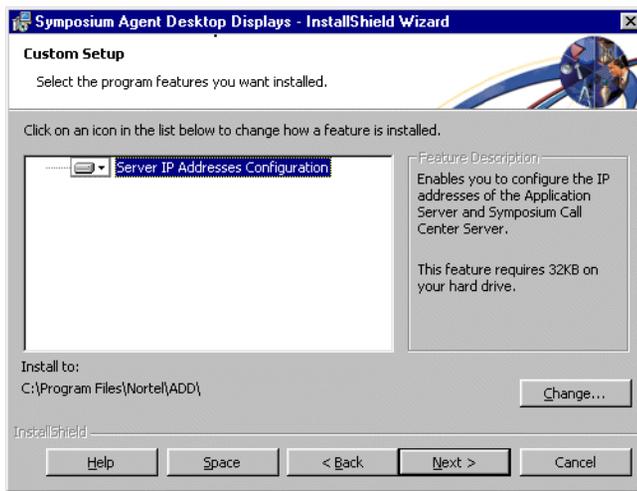


- 9 Select one of the following setup types:
- **Complete:** Click **Complete** to install all Agent Desktop Displays components in the default directory.
 - **Custom:** Click **Custom** to select which Agent Desktop Displays components the system will install, to change to the default installation directory, or to confirm available hard disk space.

10 If you want to change the components to be installed, follow these steps:

- a. Click **Custom** in the Setup Type window.

Result: The Custom Setup window appears.



- b. Click the icon for the component that you do not want to install (for example, Tabular Display).

Result: A pop-up menu appears.

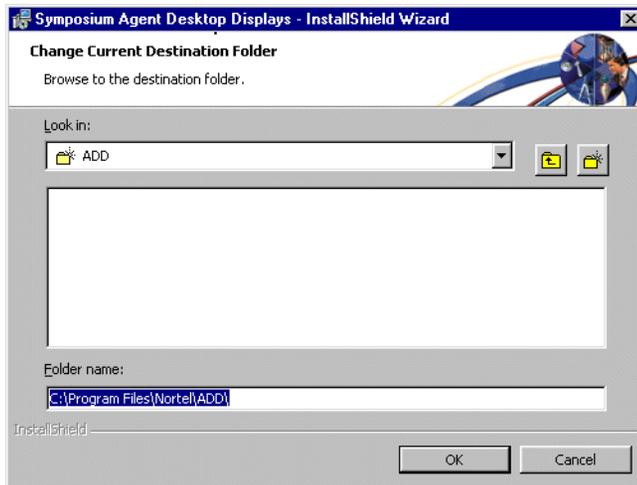
- c. Click **This feature will not be available**.

Result: An X appears beside the name of the component.

11 Confirm the default directory path that appears in the bottom left side of the window. If you want to change the default directory path, follow these steps:

- a. In the Custom Setup window, click **Change**.

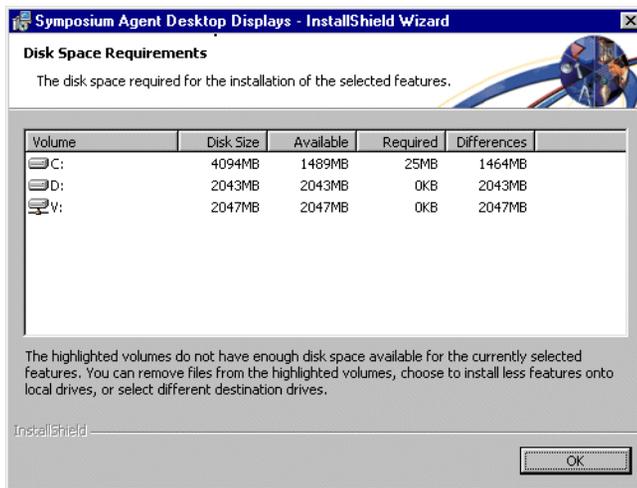
Result: The Change Current Destination Folder window appears.



- b. In the **Folder name** box, type the path to the directory and the directory name, or navigate to the drive and directory in which you want to install the program.
- c. Click **OK** to return to the Custom Setup window.

- 12 If you want to confirm your available hard disk space, click **Space**.

Result: The Disk Space Requirements window appears.

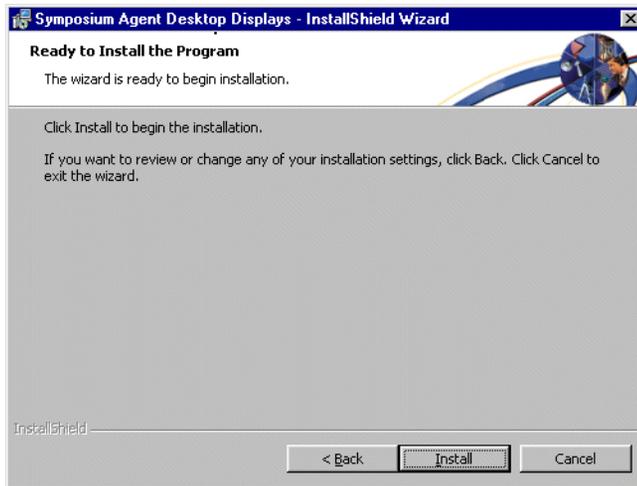


- a. Review the available hard disk space and the amount of space required to install the individual components, and then click **OK** to return to the Custom Setup window.

Note: The Disk Space Requirements window appears automatically if you attempt to install Symposium Agent Desktop Displays on a drive that does not have enough free disk space.

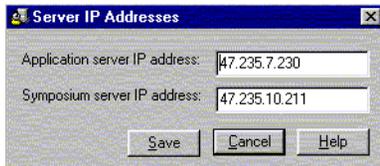
13 Click **Next**.

Result: The Ready to Install the Program window appears.

**14** Click **Install**.

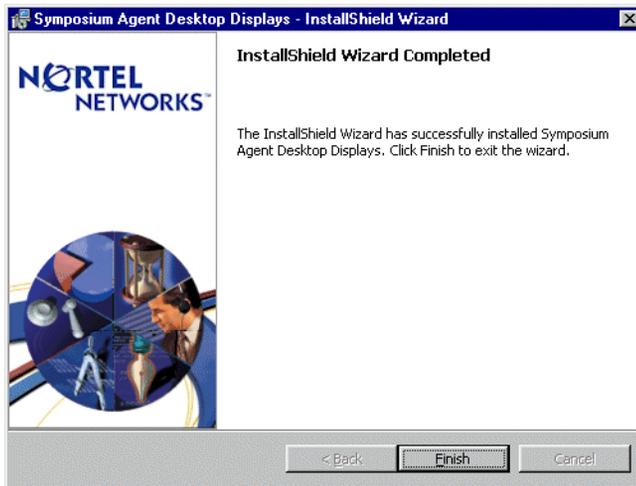
Note: If an application is running on the client whose files must be updated by the InstallShield, a Files in Use window appears. You must close any applications listed in this window and click **Retry**.

Result: The Installing Agent Desktop Displays window appears and installation begins. When installation is complete, the Server IP Addresses dialog box appears.

**15** In the **Application server IP address** and the **Symposium server IP address** boxes, type the appropriate IP addresses.

- 16 Click **Save**.

Result: The InstallShield Wizard Completed window appears.



- 17 Click **Finish**.

Result: The system prompts you to restart your system.

Chapter 5

Using Symposium Web Client

In this chapter

Overview	182
Section A: Getting started with Symposium Web Client	185
Section B: Configuration	193
Section C: Contact Center Management	207
Section D: Access and Partition Management	223
Section E: Audit Trail	261
Section F: Scripting	265

Overview

Introduction

Symposium Web Client is a browser-based tool designed to facilitate the management of call centers and their users.

Symposium Web Client components

Symposium Web Client consists of the following components:

Contact Center Management

Contact Center Management allows you to add, edit, view, or delete users on a server in Symposium Call Center Server, agent to supervisor assignments, and agent to skillset assignments.

Access and Partition Management

With this component, you can add, edit, view, or delete Web Client users, partitions, access classes, and report groups. You can also assign partitions, access classes, basic access rights, and supervisors and their reporting agents to users.

Configuration

The Configuration component is designed to assist the call center administrator in configuring and administering Symposium Call Center Server. Administrators using the Configuration component must be logged on as *webadmin* to add and configure servers, and to upload and download data using the Symposium Configuration spreadsheets.

Scripting

The Scripting component assists call center administrators in developing custom routing instructions for their call center. Scripting provides a graphical user interface for easy variable creation and access to a list of scripting commands that can be used when creating scripts.

Real-Time Reporting

Designed for call center supervisors, Real-Time Reporting allows you to view the dynamics of call activity. Real-time displays are available for both networked and single sites. This is an optional component.

Historical Reporting

You can generate summarized historical reports that contain totals for information gathered during a specific interval of time, and Event/detail reports for specific events that have occurred in the call center. This is an optional component.

Emergency Help

Agents can press the Emergency key when they require assistance from the supervisor (for example, if the caller is abusive). When a supervisor opens the Emergency Help panel, the system notifies the supervisor automatically whenever an agent presses the Emergency key on his or her phoneset. The Emergency Help panel shows information about the agent, including the agent's name, location, and time when the Emergency key was pressed.

Audit Trail

Audit Trail records the actions performed in the Configuration component, and identifies the user ID of the person who made the changes.

Agent Desktop Displays

Symposium Agent Desktop Displays provides real-time skillset monitoring to agents. Agent Desktop Displays must be configured on the application server, and on client PCs that use the tool.

The role of the administrator

This chapter is intended for administrators and provides conceptual information about the components that administrators use to configure a call center:

- Configuration
- Contact Center Management (administrative functions)
- Access and Partition Management
- Audit Trail
- Scripting

For conceptual information about Real-Time Reporting, Historical Reporting, Contact Center Management (supervisor functions) and Emergency Help, refer to the *Symposium Call Center Web Client Supervisor's Reference Guide*. For detailed procedures, refer to the online Help.

To find out more about using a component

For information on the boxes, buttons, and procedures for using any of the components in Symposium Web Client, open the component that you want to use, and then click Help → On This Window. Help for the current window appears. Click the Procedures book in the online Help's table of contents to view a list of Symposium Web Client procedures.

To view Help procedures specific to one component, click the component name in the table of contents, and then review the topics listed for that component.

Section A: Getting started with Symposium Web Client

In this section

Overview	186
High-level task flow	187
Starting Symposium Web Client	189

Overview

Introduction

Once you have installed and configured Symposium Web Client and any required third-party applications on the application server and the client PCs, you can begin using the application.

This section provides you with the following information:

- high-level task flow
- procedures for logging on to Symposium Web Client

High-level task flow

The following task flow provides a high-level overview of the steps you must perform to configure your call center using Symposium Web Client.

	Perform this step	in this component
1	Add each Symposium Call Center Server in the network.	■ Configuration
2	Upload Symposium Call Center Server configuration resources for each server.	■ Configuration
	OR	
3	Configure each server by adding the resources, such as skillsets, CDNs, DNISs, and threshold classes individually.	■ Configuration
	Note: Administrators must be logged on as <i>webadmin</i> to add and configure servers, and to upload and download configuration data.	
4	Upload Symposium Call Center Server user data.	■ Configuration
	OR	
5	Create individual Symposium Call Center Server users.	■ Contact Center Management
6	Designate the users as supervisors, agents, or supervisor/agents, and assign agents to the supervisors.	■ Configuration or Contact Center Management
7	Create any custom report groups that Web Client users require.	■ Access and Partition Management → Report Groups

Perform this step	in this component
8 Define the access classes that Web Client users require.	■ Access and Partition Management → Access Classes
9 Create the appropriate partitions for the call center, specifying the agents, applications, skillsets, CDNs, DNISs, and report groups that belong in each partition. Note: All agents that are assigned to a supervisor must also be included in the supervisor's partition, so that the supervisor can monitor the agents in Real-Time Reporting, Historical Reporting, and Contact Center Management.	■ Access and Partition Management → Partitions
10 Create the Web Client users. Grant each user basic access rights to specific Symposium Web Client components, and assign the appropriate partitions, access classes, and supervisors and their reporting agents to each user.	■ Access and Partition Management → Users

Starting Symposium Web Client

Introduction

Before you log on to Symposium Web Client, make sure you have installed all required third-party applications on the client PC, including Internet Explorer 5.5 Service Pack 1 (or higher). You must also configure your browser appropriately. See “Installing third-party software on a client” on page 162 for more information.

To log on to Symposium Web Client for the first time

When you log on to Symposium Web Client for the first time after installation, you must log on as the default administrator, *webadmin*. For security reasons, it is highly recommended that you change the default password when you first log on to the application.

Note: A user with administrator rights must always be logged on to Windows 2000 on the Symposium Web Client application server. If such a user is not logged on to the application server, then some Symposium Web Client components will not work properly. To ensure the application server is secure, you can password-protect the computer so that other users cannot access the application server locally.

To log on to the application server for the first time and change the default password

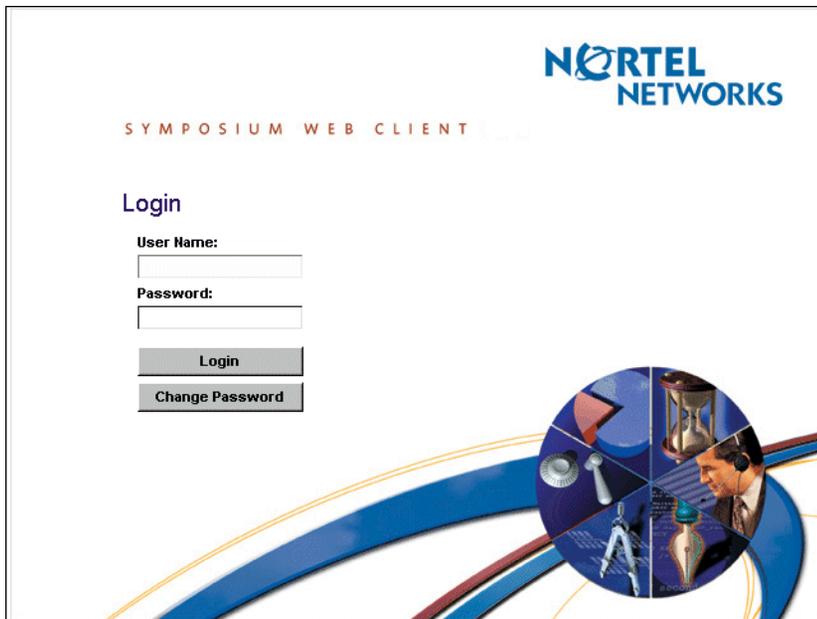
- 1 Start Internet Explorer.
- 2 In the Address box, type the URL address of the application server. The default URL address is `http://<Application Server>`.

Note: Do not type the IP address of the application server. If you type the IP address instead of the URL, you may experience problems while working in the Scripting component.



Tip: You can save the application server's address by adding it to your list of Internet Explorer Favorites.

Result: The application server displays the Symposium Web Client main logon window.



- 3 Click **Change Password**.
- 4 Enter the default password.
- 5 Enter a new password.
- 6 Reenter the new password.

Note: You can modify only the default user name's password. The default user name *webadmin* cannot be changed.

- 7 Click **Submit**.

Result: The default password is changed and the main logon window reappears.

- 8 In the main logon window, type the user name and the password.

Result: The main application window appears.



Default time-out rate

Symposium Web Client no longer has a default time-out rate. Your session will not time out if the application remains idle.

What's next?

After you have logged on to the application server for the first time, you must add and configure the servers in Symposium Call Center Server using the Configuration component. Only administrators who are logged on as *webadmin* can add and configure servers in Symposium Call Center Server.

Refer to the “High-level task flow” on page 187 for a configuration overview, or refer to “Configuration” on page 193 for conceptual information.

For detailed step-by-step procedures, refer to the online Help in the Configuration component.

Section B: Configuration

In this section

Overview	194
Adding and configuring call center servers	196
Configuring resources	199

Overview

Configuration component

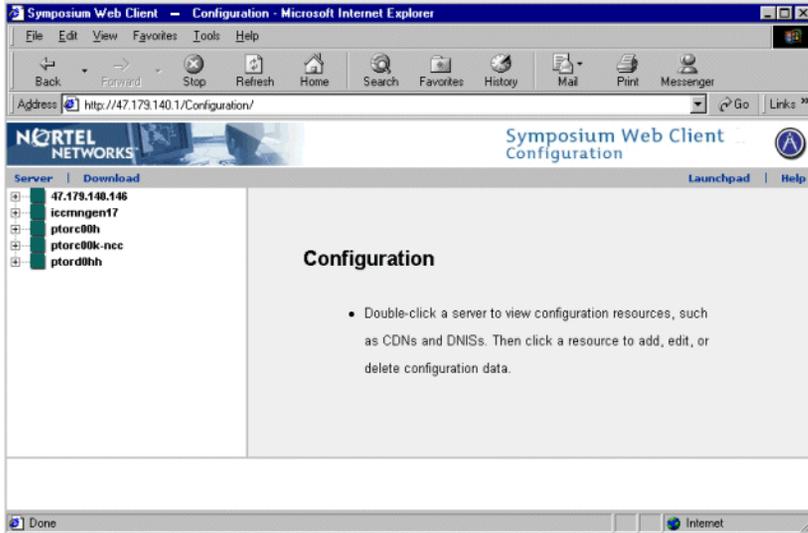
There are two main tasks that you perform using the Configuration component:

- adding, configuring, and deleting servers in Symposium Call Center Server
- adding, configuring, and deleting resources
 - individually using the web-based user interface
 - or
 - uploading and downloading bulk data using the Configuration spreadsheets

Note: You must be logged on to Symposium Web Client as *webadmin* to add and configure servers, and to upload and download data using the Symposium Configuration spreadsheets.

This chapter provides a high-level overview of these procedures. For step-by-step procedures about using the Configuration component, see the Symposium Web Client online Help.

Configuration main window



Adding and configuring call center servers

Introduction

Once you have logged on to Symposium Web Client as the user *webadmin*, you can add servers in Symposium Call Center Server in the Configuration component by accessing the Server menu from the toolbar.

Note: The Server menu is visible only when you log on to Symposium Web Client as the user *webadmin*.

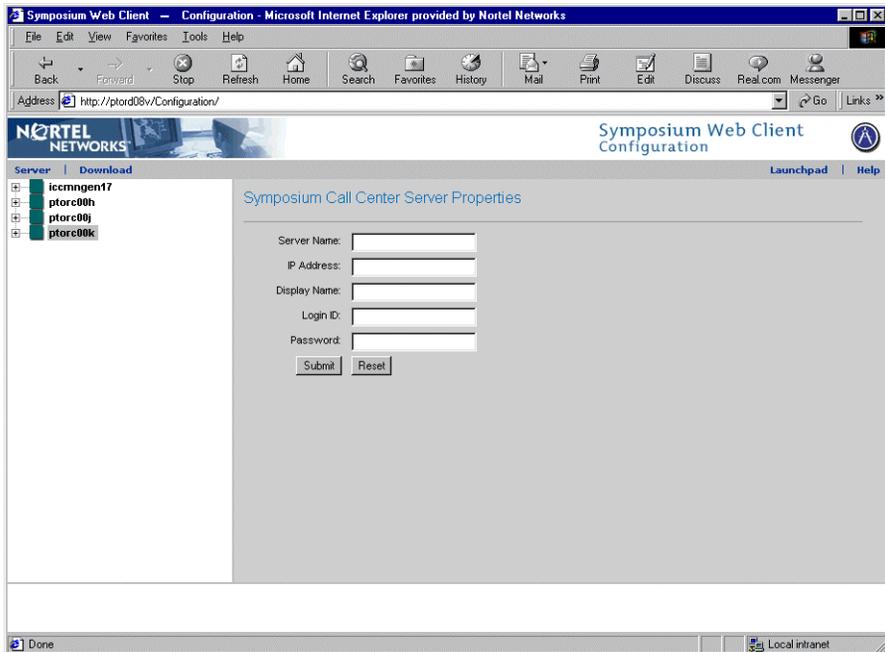
Configuration → Server menu



Note: From the Server menu, you can also delete existing servers in Symposium Call Center Server, or edit the properties of an existing server that has already been added to Symposium Web Client.

After clicking Server → Add Server, the Symposium Call Center Server Properties window appears in the main pane.

Symposium Call Center Server Properties window



To add a server in Symposium Call Center Server

- 1 In the **Server Name** box, type the name of the server in Symposium Call Center Server.
- 2 Press Tab.

Result: The server's IP address automatically appears in the **IP Address** box.

Note: If you enter a server name without an IP address, that server name must be registered with the DNS server. When you tab out of the **Server Name** box, verify that the CLAN IP address appears in the IP Address box. If the word *Unknown* appears in this box, then the server name is not registered with either the DNS or the HOSTS table. In this case, you must enter the server's IP address in the **Server Name** box. For more information on manually updating the HOSTS table, see "Did you configure a DNS server?" on page 293.

- 3 In the **Display Name** box, type the name of the server in Symposium Call Center Server as you want it to appear on the system tree in Symposium Web Client.
Result: The system automatically assigns a display name that is the same as the server name. If you want to enter a different display name, it must be a unique name.
- 4 In the **Login ID** box, enter your Login ID for Symposium Call Center Server.
- 5 In the **Password** box, enter your password for Symposium Call Center Server.
- 6 Click **Submit**.

Result: The server is acquired and now appears on the server tree in the left pane of the window. Click the plus symbol (+) beside the server name to access the server.

ATTENTION

The Symposium Call Center Server Login ID and Password that you specify when configuring a new server in Symposium Web Client must match an existing logon ID and password that an administrator has configured on Symposium Call Center Server. Therefore, if an administrator uses the Symposium Call Center Server client to change a server Login ID that you have *already* entered in Symposium Web Client, then you must update the Login ID box in the Configuration component of Symposium Web Client to match the new Login ID. Likewise, if an administrator changes the Symposium Call Center Server password using the Symposium Call Center Server client, then you must update the password in the Configuration component of Symposium Web Client to match the new password.

Configuring resources

Introduction

You can configure resources using two different methods:

- uploading bulk data using the Symposium Configuration spreadsheets
or
- individually, using the web-based user interface

Note: You cannot acquire resources such as CDNs, routes, voice ports, IVR ACD-DNs, and phonesets through the Symposium Configuration spreadsheets. You must use the web-based interface in Configuration for resource acquisition.

Using spreadsheets to upload data to the application server

By using the Symposium Configuration spreadsheets, you can save yourself time when configuring a new call center. Instead of entering the data for each resource individually, you can upload all of the configuration data that you have entered in the spreadsheet simultaneously. When you upload the data from the spreadsheet, you can choose to upload all of the configuration items at once, or only a portion of them.

Note: You must be logged on to Symposium Web Client as the default administrator, *webadmin*, to upload and download data, and to download the spreadsheet template from the Configuration component.

Based on your call center server (M1/CSE 1000, DMS/MSL-100, or NCC), you can upload the following configuration data using the corresponding Symposium Configuration spreadsheet:

-
- | | |
|-----------------------------|-----------------------------|
| ■ Users | ■ Skillsets |
| ■ DNISs | ■ Global Settings |
| ■ Phoneset displays | ■ Access Classes |
| ■ Phonesets and Voice ports | ■ Call presentation classes |

-
- Routes
 - CDNS
 - Activity Codes
 - IVR ACD DN's
 - Threshold Classes*
 - *Agent, Skillset, Application, IVR ACD-DN, Route, Nodal
-

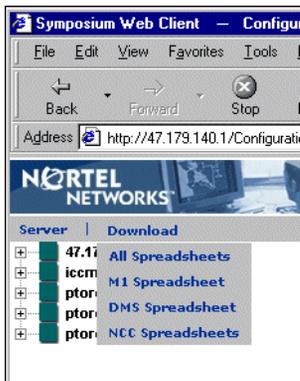
Although you can upload supervisor and agent configuration data using the Configuration spreadsheets, you must modify and delete this data using the Contact Center Management component, not the Configuration component.

Downloading the Symposium Configuration spreadsheet template

Before you begin, you must download the appropriate Symposium Configuration spreadsheet templates from the Configuration component by accessing the Download menu on the toolbar.

Note: The Download menu is visible only when you log on to Symposium Web Client as the user *webadmin*.

Configuration → Download menu



When you download a spreadsheet, three files are included: the spreadsheet file (.xls), the validation file (.xml), and the Help file (.chm). Make sure all of these files reside in the same folder on your computer after downloading.

For step-by-step procedures about downloading the Symposium Configuration spreadsheet templates, see the Symposium Web Client online Help. From the Symposium Web Client toolbar, click Help → Contents, and from the Contents tab, click Configuration → Procedures → Spreadsheet procedures for detailed information.

Using the Symposium Configuration spreadsheet template

Once you download the appropriate Symposium Configuration spreadsheet template for your call center (that is, M1/CSE 1000, NCC, or DMS/MSL-100), you can enter configuration data directly into the spreadsheet, or you can copy configuration data into the spreadsheet from various sources:

- existing spreadsheets
- M1 Data Extraction Tool spreadsheets
- personnel files (for user names)

ATTENTION

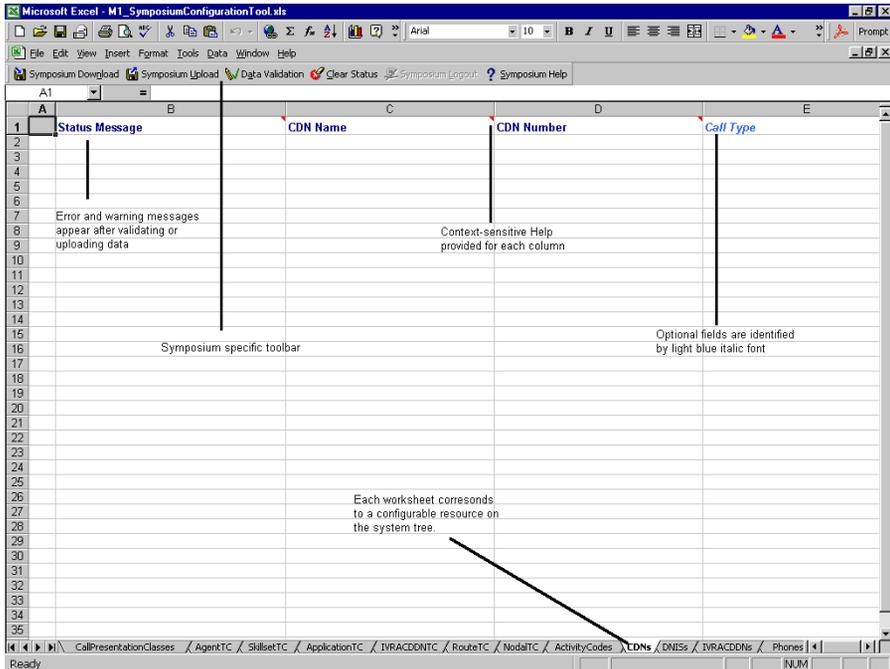
You must *copy* data from any existing spreadsheets into the Symposium Configuration spreadsheet templates. You cannot upload data directly from an existing spreadsheet. For more information, see the *Symposium Call Center Server Data Extraction Tool User's Guide for the Meridian 1*.

The Symposium Configuration spreadsheet has its own toolbar that allows you to perform the following tasks:

- Download existing configuration data from Symposium Call Center Server.
- Upload configuration data to Symposium Call Center Server.
- Validate the data that you have entered into the spreadsheet.
- Clear error messages from the spreadsheet after you have validated and repaired the data.
- Log off the application server.
- Access Symposium Help.

Configuration spreadsheet

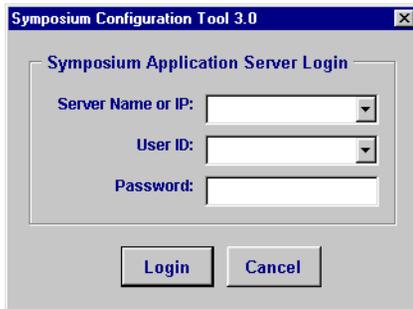
When opening the Symposium Configuration spreadsheets, a Microsoft Excel message asks if you want to enable all macros. Click **Yes** to enable all macros.



Uploading data to Symposium Call Center Server

Once you have entered the configuration information into the spreadsheet, validate your data by clicking **Data Validation** on the toolbar. Once you have corrected any invalid information and have successfully validated the information, click **Symposium Upload** on the toolbar.

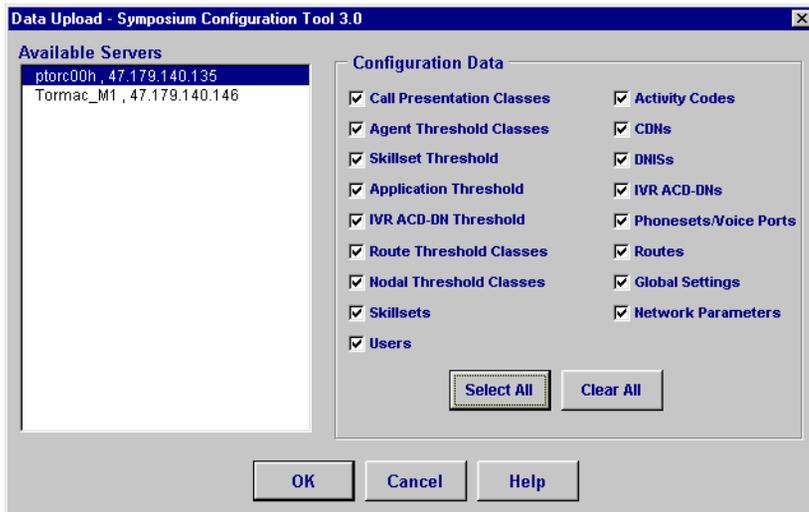
The system prompts you to log on to the application server by entering the application server IP address before uploading data.



Data Upload - Symposium Configuration Tool 3.0 window

In the resulting Data Upload - Symposium Configuration Tool 3.0 window, you must select the server in Symposium Call Center Server to which you want to upload the data. In the **Configuration Data** section, you can indicate which data you want to upload.

Note: The **Available Servers** box displays the servers that correspond to the Configuration spreadsheet you are using. For example, if you are using the M1.xls spreadsheet, NCC servers do not appear in the **Available Servers** box during uploading. To upload data to an NCC server, you must use the NCC.xls Configuration spreadsheet.



As your data uploads, the Current Status box displays the records that are being read. After the upload process is complete, the Summary Status box lists the data that was successfully uploaded, as well as any errors that occurred. If there are any errors, they also appear in the **Status Message** column of the spreadsheet.

You cannot acquire resources such as CDNs, routes, voice ports, IVR ACD-DNs, and phonesets through the Symposium Configuration spreadsheet. You must use the web-based interface in Configuration for resource acquisition.

Note: For step-by-step procedures about the Symposium Configuration spreadsheets, see the Symposium Web Client online Help. From the Symposium Web Client toolbar, click Help → Contents, and from the Contents tab, click Configuration → Procedures → Spreadsheet procedures.

Downloading data from Symposium Call Center Server

You can download configuration resource data from Symposium Call Center Server to the Symposium Configuration spreadsheets. You can do this to review your configuration data, or to make changes to the data and then upload it back to the server in Symposium Call Center Server.

Before you download data from Symposium Call Center Server, you must download the appropriate Symposium Configuration spreadsheet from the Configuration component. To make sure you do not overwrite an existing Symposium Configuration spreadsheet, rename the spreadsheet or save it in a different directory when downloading.

Once you download the new Symposium Configuration spreadsheet, open the spreadsheet and click **Symposium download** on the toolbar. Provide the appropriate information for the Symposium Call Center Server from which you are downloading data and for the application server.

Note: For step-by-step procedures about the Symposium Configuration spreadsheets, see the Symposium Web Client online Help. From the Symposium Web Client toolbar, click Help → Contents, and from the Contents tab, click Configuration → Procedures → Spreadsheet procedures.

Using the Configuration user interface

You can add configuration resource data using the Configuration user interface. When you click the resource on the system tree, the corresponding data table appears on the right side of the window. Click an empty row and type the configuration data in the appropriate columns. When you exit a row, the information is automatically saved in Symposium Call Center Server.

Note: New configuration data is saved to Symposium Call Center Server when you leave the row in which you have entered the data. Do not click **Back** or **Refresh** on the Internet Explorer button bar to save or refresh the data in the table. To refresh the table, you must click the server name on the system tree.

Configuration user interface

Name	Number	Acquired?	Status
613778888	613778888	<input checked="" type="checkbox"/>	Acquired
613778889	613778889	<input checked="" type="checkbox"/>	Acquired
613778887	613778887	<input checked="" type="checkbox"/>	Acquired
613778886	613778886	<input checked="" type="checkbox"/>	Acquired
613778885	613778885	<input checked="" type="checkbox"/>	Acquired
613778884	613778884	<input type="checkbox"/>	Not Acquired
613778883	613778883	<input checked="" type="checkbox"/>	Acquired
613778882	613778882	<input checked="" type="checkbox"/>	Acquired
613778881	613778881	<input type="checkbox"/>	Not Acquired
613222222	613222222	<input checked="" type="checkbox"/>	Acquired
change name	613222298	<input checked="" type="checkbox"/>	Acquired
new cdn	232323232	<input checked="" type="checkbox"/>	Acquired
new2	111111111	<input checked="" type="checkbox"/>	Acquired
val this cdn	1800555555	<input checked="" type="checkbox"/>	Acquired
1234567890123456	1234567890	<input type="checkbox"/>	Not Acquired
*		<input type="checkbox"/>	

You can edit information in individual cells by clicking directly on the cell and modifying the data. You can delete entire rows by selecting the row and pressing **Delete** on your keyboard. To save data, use your mouse to click a different row, or press **Tab** to move to the next row.

What's next?

Create the Symposium Call Center Server users, designate them as supervisors, agents, or supervisor/agents, and assign agents to supervisors.

Section C: Contact Center Management

In this section

Overview	208
Working in assignment mode	210
Working in detail mode	216
Adding Symposium Call Center Server users	218

Overview

Introduction

Once you add and configure each server in Symposium Call Center Server, you can use the Contact Center Management component to perform the following tasks:

- Add, edit, view, or delete users on a server in Symposium Call Center Server.
- Add, edit, view, or delete agent to supervisor assignments.
- Add, edit, view, or delete agent to skillset assignments.

This section provides a high-level overview on adding Symposium Call Center Server users, designating them as supervisors, agents, or supervisor/agents, and assigning agents to supervisors and skillsets.

For detailed information about working in Contact Center Management, refer to the *Symposium Call Center Web Client Supervisor's Reference Guide*, or refer to the step-by-step procedures in the online Help.

Main working modes

Contact Center Management has two main working modes:

- **Assignment mode** When you first open Contact Center Management from the Symposium Web Client launchpad, it opens in assignment mode. In this mode, you can use two windows—the Supervisor window and the Skillset window—to create ad hoc agent to supervisor and agent to skillset assignments. You cannot save or schedule assignments in this mode, nor can you perform any other functions, such as adding, editing, or deleting users.
- **Detail mode** Users who have been granted any access level other than *Ad Hoc Assignments Only* (within the Agents and Supervisors access class) can open a second browser window in which they can perform all other Contact Center Management functions. You can open this detail mode of Contact Center Management in two ways: from the Skillset window or Supervisor window, click **More Details**, or on the main menu, click

Add/Edit → More Details. In this mode, users with the correct access class can view call center data, create, edit, and delete call center users, save and schedule assignments, and work with supervisor groups on all servers to which they have access.

If you work in a networked environment, the system tree contains multiple servers with each server representing a call center in the network. When you first open Contact Center Management, you must click to log on to a server in Symposium Call Center Server to see the configured skillsets, supervisors, and agents.

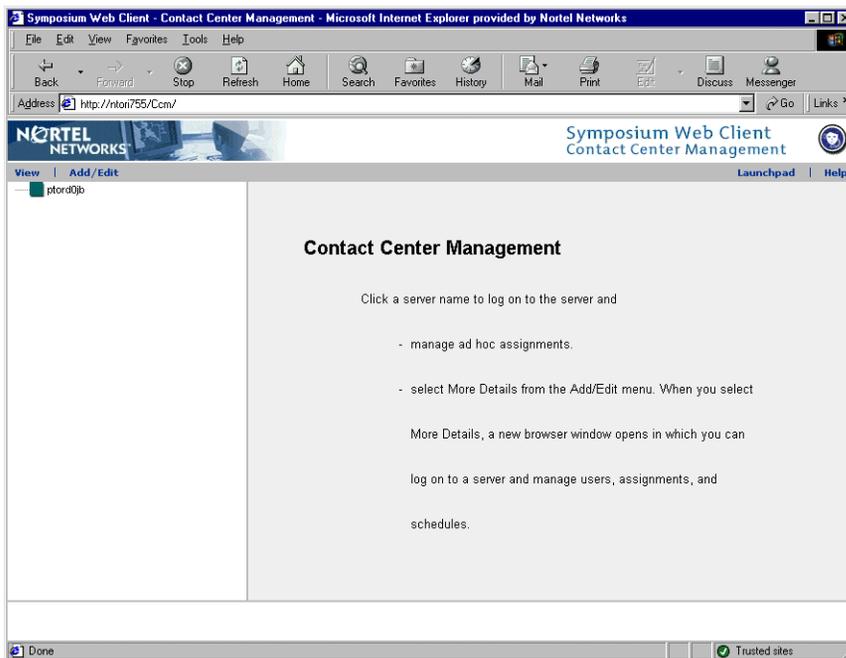
Working in assignment mode

Introduction

When you open Contact Center Management from the Symposium Web Client launchpad, the Contact Center Management main window opens in assignment mode and defaults to the agent to supervisor view.

Note: To switch to the agent to skillset view, click View → Skillsets on the menu.

Contact Center Management main window - assignment mode



Ad hoc agent to supervisor assignments

To work with agents and supervisors, users must first log on to the appropriate server in the system tree. The server expands to reveal all the supervisors configured on it. Click a supervisor in the tree to open the Supervisor window and see the supervisor's reporting agents and their corresponding login IDs.

Users with administrator rights (that is, users who have been granted basic access to all Symposium Web Client components and who have no partitions or supervisor/reporting agents assigned to them) automatically see all supervisors and agents in all windows of Contact Center Management. However, users who have been assigned a partition containing agents, or a supervisor/reporting agent combination, see only those agents to whom they have been given access. Partitions and supervisor/reporting agent combinations behave differently in assignment mode and in detail mode. For more information, see "Partitions in Contact Center Management" on page 236, and "Partitions and supervisor/reporting agent combinations in Contact Center Management" on page 253.

Note: If you want to perform any function other than ad hoc assignments, click **More Details** in the Supervisor window (or click Add/Edit → More Details on the menu). A new browser window appears in which you can log on to the appropriate server to manage agents, supervisors, and assignments.

The screenshot shows the Symposium Web Client interface for Contact Center Management. The browser title is "Symposium Web Client - Contact Center Management - Microsoft Internet Explorer provided by Nortel Networks". The address bar shows "http://nks0755/Ccm/". The interface is divided into several sections:

- Tree View (Left):** A hierarchical tree showing the system structure. The selected supervisor is "Ho Angela".
- Supervisor: Ho Angela:** A section displaying the assigned agents for this supervisor.
- Assigned Agents Table:** A table with two columns: "Login ID" and "Assigned Agents".
- Buttons:** "List All" and "Submit" buttons are located below the table. A "More Details" button is located in the bottom right corner.
- Callout Boxes:**
 - A box pointing to the "List All" button: "Click this triangle to list all unassigned agents configured on the server."
 - A box pointing to the "More Details" button: "Click More Details to open a new browser window in which you can perform all other functions in Contact Center Management."

Login ID	Assigned Agents
7391	Ng Andrew
7185	Sostar Jasminka
0	Kaminsky Michael
7390	Nguyen Mai
7541	Allen Kurt
7456	Boric Alan
7659	Lau Victor
7437	Falzon Jamie

To quickly assign new agents to a supervisor, click the triangle beside **List All**. The list of all unassigned agents configured on the server appears.

Note: Partitions and supervisor/reporting agent assignments control the agent data that users can see in Contact Center Management. However, the effect that these two features have on agent data differs between the assignment mode and detail mode of Contact Center Management. In both modes, if you do not assign a partition to a user, then the user sees all agent data. Therefore, to give a user access to all agents, do not assign a partition or a supervisor/reporting agent combination to the user. For more information on partitions and supervisor/reporting agent combinations in Contact Center Management, see “Partitions in Contact Center Management” on page 236, and “Partitions and supervisor/reporting agent combinations in Contact Center Management” on page 253.

The screenshot shows the Symposium Web Client interface in Microsoft Internet Explorer. The browser title is "Symposium Web Client - Contact Center Management - Microsoft Internet Explorer provided by Nortel Networks". The address bar shows "http://ntoni755/Ccmv/". The page header includes the Nortel Networks logo and the text "Symposium Web Client Contact Center Management".

The main content area is titled "Supervisor: Ho Angela". It contains two tables:

Login ID	Assigned Agents
7391	Ng Andrew
7185	Sostar Jasminka
0	Kaminsky Michael
7390	Nguyen Mai
7541	Allen Kurt
7456	Boric Alan
7659	Lau Victor
7437	Falzon Jamie

Below the first table is a section titled "List All" with a dropdown arrow. It contains a table of unassigned agents:

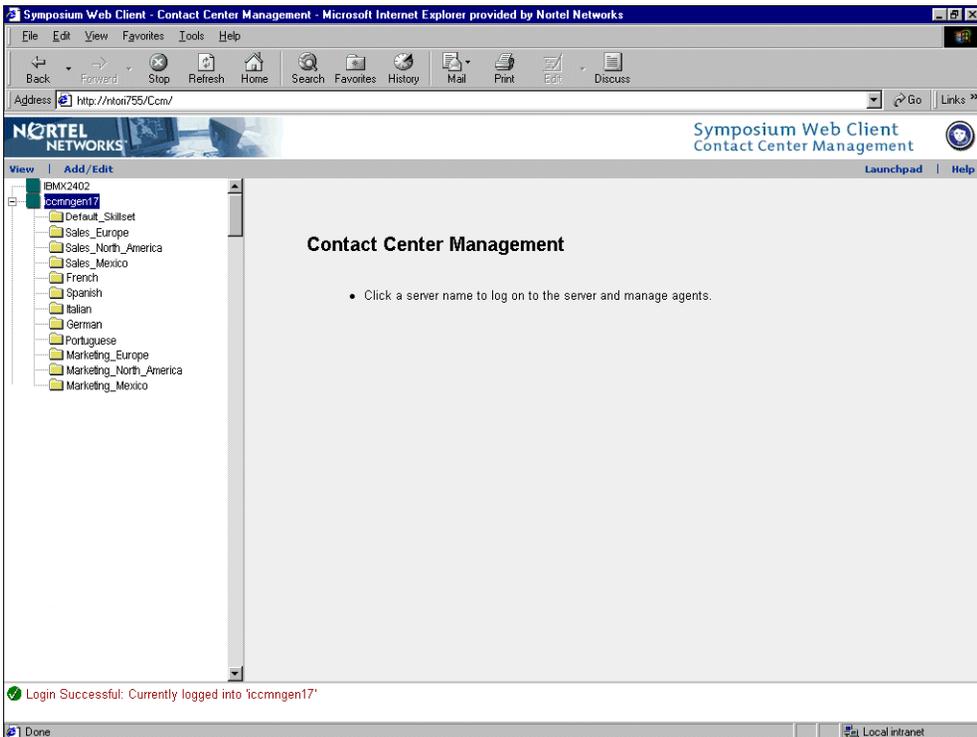
Login ID	Agents	Assign
7758	Chan Victor	<input type="checkbox"/>
7627	Badea Adrian	<input type="checkbox"/>
112233	Browne Janet	<input type="checkbox"/>
2345	Spry Ainsley	<input type="checkbox"/>
12345	Sostar Yaz	<input type="checkbox"/>
7770	Co-op Desk Top Support (Companion)	<input type="checkbox"/>
7861	Costner Mark	<input type="checkbox"/>
4153	Costner Jamie	<input type="checkbox"/>

At the bottom of the "List All" section are "Submit" and "More Details" buttons. The status bar at the bottom of the browser shows "Done" and "Local intranet".

Click the check box beside the agents who you want to assign to the supervisor. Then click **Submit** to save your changes. The system immediately assigns the agents to the supervisor.

Ad hoc agent to skillset assignments

You can immediately assign a new skillset to an agent or change the priority of an assigned skillset by using the Skillset window. To work with skillsets, from the Supervisor window, click View → Skillsets. Then, from the system tree, log on to the appropriate server. The list of skillsets configured on the server appears.



Click a skillset to open the Skillset window and view the list of agents currently assigned to it.

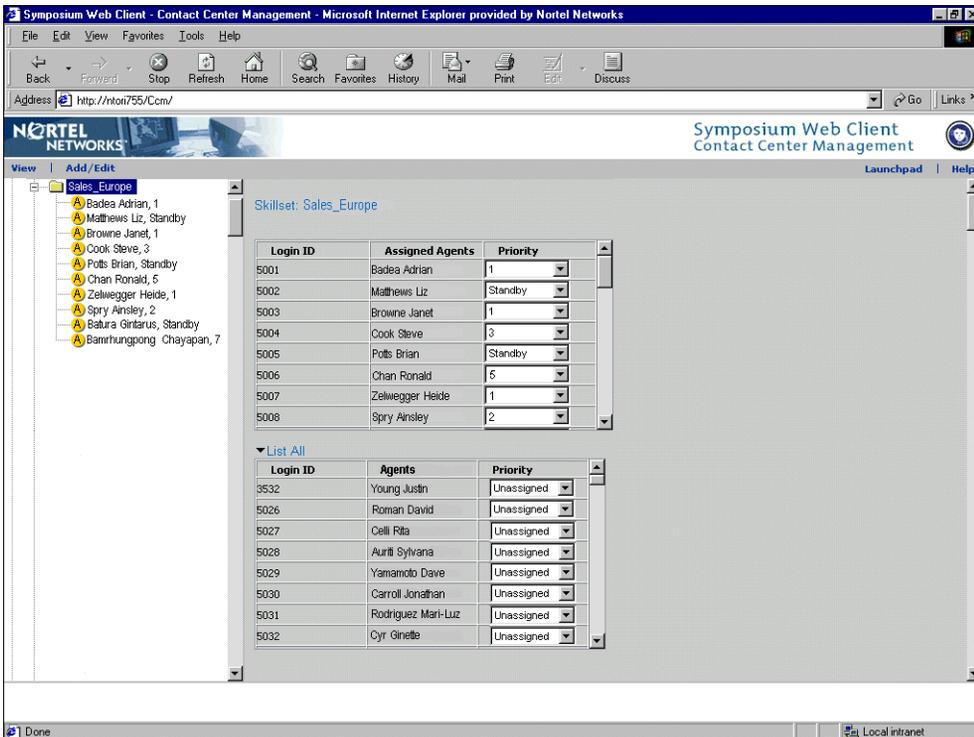
The screenshot shows the 'Symposium Web Client - Contact Center Management' interface. The left-hand navigation pane is expanded to show 'Sales_Europe' with a list of agents: Badea Adrian, 1; Matthews Liz, Standby; Browne Janet, 1; Cook Steve, 3; Potts Brian, Standby; Chan Ronald, 5; Zelwegger Heide, 1; Spry Ainsley, 2; Satara Gintarus, Standby; and Banrhangpong Chayapan, 7. The main content area displays 'Skillset: Sales_Europe' and a table of assigned agents.

Login ID	Assigned Agents	Priority
5001	Badea Adrian	1
5002	Matthews Liz	Standby
5003	Browne Janet	1
5004	Cook Steve	3
5005	Potts Brian	Standby
5006	Chan Ronald	5
5007	Zelwegger Heide	1
5008	Spry Ainsley	2

Below the table is a 'List All' link and a 'Submit' button. A 'More Details' button is also visible. Three callout boxes provide instructions:

- Click this triangle to list all unassigned agents configured on the server.** (Points to the triangle next to 'List All')
- Click Submit to save your changes.** (Points to the 'Submit' button)
- Click More Details to open a new browser window in which you can perform all other functions in Contact Center Management.** (Points to the 'More Details' button)

To change the skillset priority of an agent already assigned to the skillset, from the **Priority** drop-down list, choose the new priority, Then click **Submit** to save your changes. To immediately assign a *new* agent to the skillset, click the triangle beside **List All**. The list of unassigned agents configured on the server appears.



From the list of unassigned agents, choose the skillset priority. Then click **Submit** to save your changes. The system immediately assigns the agents to the skillset with the priority you chose.

Note: To perform all other actions in Contact Center Management, such as scheduling assignments, creating and editing users, and working with supervisor groups, click **More Details** in either the Supervisor or Skillset window (or Add/Edit → More Details on the menu). A new browser window appears, enabling you to work in detail mode and perform all other functions in Contact Center Management.

Working in detail mode

Introduction

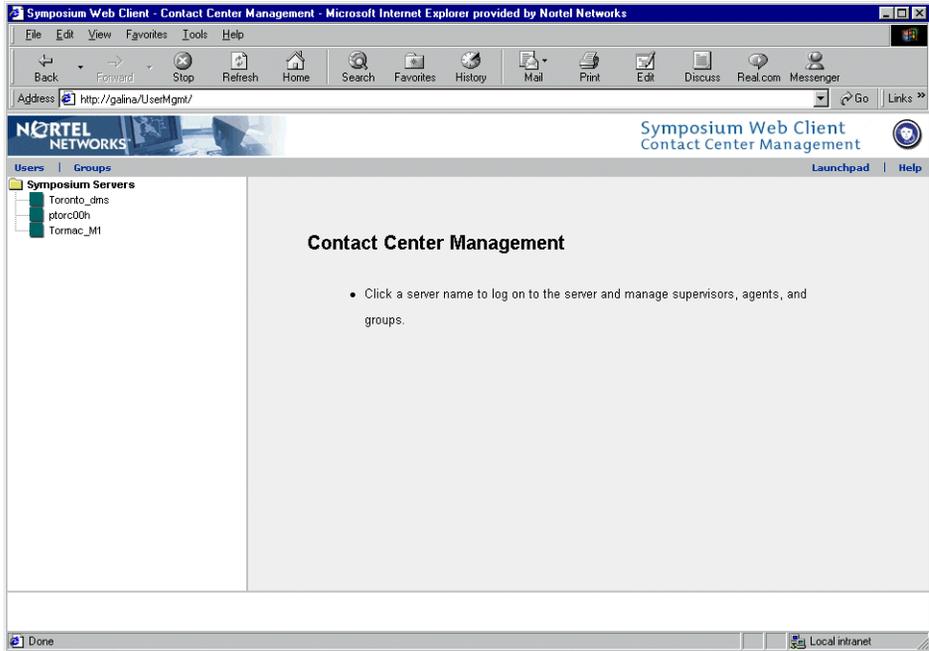
When you click **More Details** in the Supervisor window or Skillset window (or Add/Edit → More Details on the menu), the detail version of the Contact Center Management window appears in a new browser window. You must log on to a server again before you can work with the users configured on it.

When you first log on to a server, the system takes a few moments to retrieve the user data. The more agents and supervisors configured on the server, the more time required to retrieve the user data.

Tip: If you are going to work in more than one Symposium Web Client component in a single session, you can open a second browser window from Contact Center Management in which you can work with the other components. In this way, you can return to Contact Center Management at any time without having to wait for the system to load the user data again. To open another browser window while in Contact Center Management, press Ctrl+n.

When the system has retrieved all user data on the selected server, it populates the Users table with all configured users.

Contact Center Management main window - detail mode

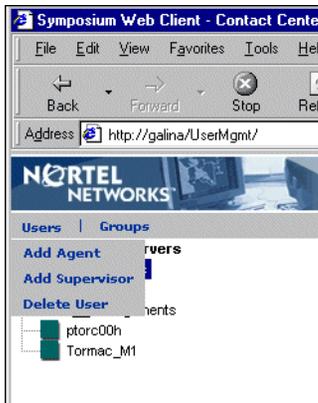


Adding Symposium Call Center Server users

Introduction

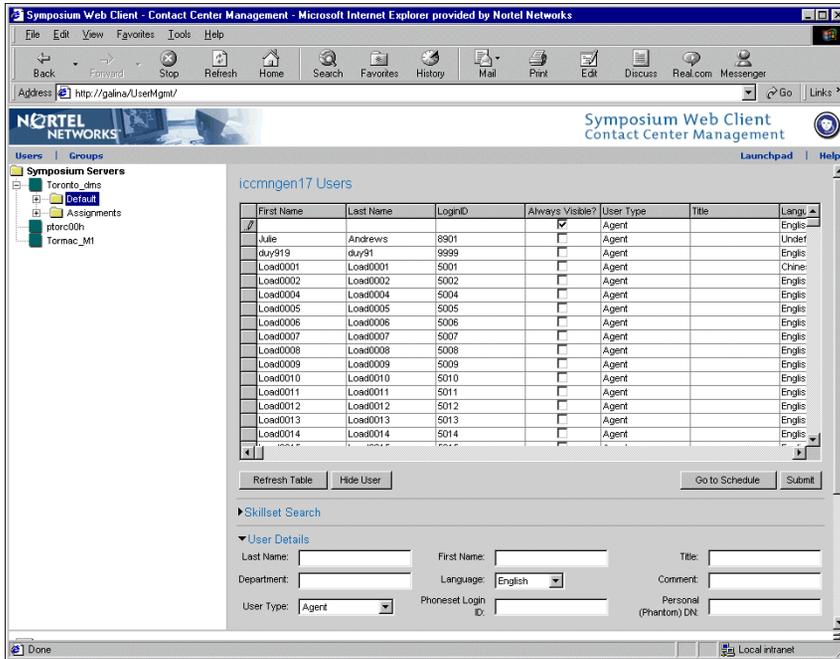
Click the name of the server to which you want to add users. Once the system retrieves that server's user data, you can add agents or supervisors by clicking **Users** → **Add Agent**, or **Users** → **Add Supervisor** on the toolbar. If you need to delete users, you must do it in **Contact Center Management**; you cannot delete users using the **Configuration** component's user interface or spreadsheets.

Contact Center Management → Users menu



In the **Users** window, you can type the new user's information directly in the **Users** table, or you can type the information in the **User Details** section.

Users window



Entering user data

In the **User Details** section, there is an **Agent Information** area and a **Supervisor Information** area. The system allows you to enter information in these areas depending on which type of user you selected from the User menu.

User Details section

▼ **User Details**

Last Name: First Name: Title:

Department: Language: Comment:

User Type: Phoneset Login ID: Personal (Phantom) DN:

Agent Information

Agent	Skillset	Priority
Skillssets:	ASkillset_sl	
	Default_Skil	
	duy_test_sl	

Primary Supervisor:

Call Presentation:

Threshold:

Agent Key:

Supervisor Information

Telephony/Port Address:

Web Client User ID:

Password:

Agent information

When you add an agent, you can select skillsets, assign priorities, and assign the agent to a Primary Supervisor.

After you type a value in the **Agent Skillsets** table, you must click in any other box in the table so that the system can register your changes. Then, once you have entered all of the user data, click **Submit**. The user is added in Symposium Call Center Server.

Supervisor information

When you add a supervisor in the **User Details** section, you can also add the supervisor as a Web Client user at the same time. In the **Supervisor Information** section, type the supervisor's Web Client user ID and password. This user appears on the **Users** table in Contact Center Management and in the **Users** tree in the Access and Partition Management component.

Note: After adding a Symposium Call Center Server supervisor as a Web Client user, you must still configure the user in the Access and Partition Management component. For example, you must still assign the user basic access rights to the different components, access classes, partitions, and supervisor/reporting agents. To enable this supervisor to see all of his or her own reporting agents in the historical reports and real-time displays, assign the supervisor (and his or her reporting agents) to the corresponding Web Client user profile. For more information, see the “Supervisor/reporting agents feature” on page 247.

Once you have entered all of the user data, click **Submit**. The user is added in Symposium Call Center Server.

Supervisor group folders

Supervisor groups enable you to organize all users on each Symposium Call Center Server. You can create different group folders to represent departments in the call center, and then place the supervisors who work in each department in the appropriate folder. When you create a new supervisor, the supervisor automatically belongs to a Default group. However, you can move the supervisor to a custom supervisor group folder that you have created. For example, you may want to place all of the supervisors who work in the Marketing department in a group folder called Marketing. You can create new groups by clicking the Groups menu on the toolbar.

More information

For more information, refer to the *Symposium Call Center Web Client Supervisor's Reference Guide*, or refer to the step-by-step procedures in the online Help.

What's next?

Create report groups, partitions, and access classes in the Access and Partition Management component. Then you can create Web Client users, and assign them basic access rights, partitions, access classes, and supervisor/reporting agent combinations.

Section D: Access and Partition Management

In this section

Overview	224
Creating report groups	228
Creating partitions	231
Creating access classes	238
Adding and configuring users	245
Supervisor/reporting agents feature	247

Overview

Access rights, access classes, partitions, and supervisor/reporting agent combinations

There are four mechanisms in Symposium Web Client that you can use to control the data that users can access in the call center:

- basic access rights to each component in Symposium Web Client
- access classes
- partitions
- supervisor/reporting agent combinations

Access rights

The most basic level of security is the overall right to access the components within Symposium Web Client. When you add Web Client users in Access and Partition Management, you can specify which components the users can access. If you do not grant a user basic access to a component, then the component is not visible to the user on the Symposium Web Client launchpad.

Access classes

Access classes allow you to control the actions (for example, none, read only, read/update, read/update/create/delete) that users can perform when configuring the call center while using the Contact Center Management and Configuration components.

Note: Access classes are not defined for any of the remaining Symposium Web Client features. To perform all functions in these components, users require only basic access rights.

Partitions

Partitions allow you to specify which data Web Client users can view and manage on a per-server basis in Real-Time Reporting, Historical Reporting, and Contact Center Management. After you grant users basic access rights to these components, you can control the data they can access on each server by adding the data elements to the partition assigned to the users. You can, for example, give a user access to data on only one server in the network.

Supervisor/reporting agent combinations

Similar to a partition containing only agents, this feature enables you to link supervisors (and all their reporting agents) to a Web Client user on a per server basis. For a Web Client user who is also a supervisor, you can link the two profiles, ensuring that the supervisor automatically sees all his or her agents in the historical reports, real-time displays, and in the assignment mode of Contact Center Management. Unlike partitions in which you can choose individual agents, in the supervisor/reporting agent feature, you cannot specify the particular agents that a user can see; once you associate a Web Client user with a supervisor, then the user automatically sees *all* the supervisor's reporting agents.

Together, these four features allow you to tailor access rights to suit every user in the call center.

Example

You first grant a user general access to Contact Center Management. Then you define the actions the user can perform in Contact Center Management. For example, you can give the user read and update access to supervisors and agents. Finally, you specify the data that the user can see in Contact Center Management by defining a partition containing the appropriate agents and assigning it to that user, or by assigning one or more supervisor/reporting agent combinations to the user (or both). When the user opens the Contact Center Management component, he or she can see only the agents specified in the partition, or the agents reporting to the supervisor associated with this user (or both), and can only read and update agents, supervisors, and assignments.

Security level	Resulting example
Grant overall access rights to individual components for the user.	Access to Contact Center Management.
Define an access class for the user.	Read/update access to agents and supervisors.
Define a partition with various data.	A partition with agent data.

Security level	Resulting example
Assign that partition to the user, or assign him or her a supervisor/reporting agent combination.	<p data-bbox="637 219 1069 454">When the user opens the Contact Center Management component, he or she sees only the agents specified in the partition, or the agents reporting to the supervisor assigned to this user, and can only read and update the agents.</p> <p data-bbox="637 479 1069 779">Note: Partitions and supervisor/reporting agent combinations behave differently in the detail and assignment modes of Contact Center Management. For more information, see “Partitions and supervisor/reporting agent combinations in Contact Center Management” on page 253.</p>

ATTENTION

If you do not assign a partition or a supervisor/reporting agent combination to a user, then that user can see *all* data pertaining to the call center in Real-Time Reporting, Historical Reporting, and Contact Center Management on each server in the network, assuming that the user has been given basic access rights to these components.

Creating report groups, partitions, and access classes

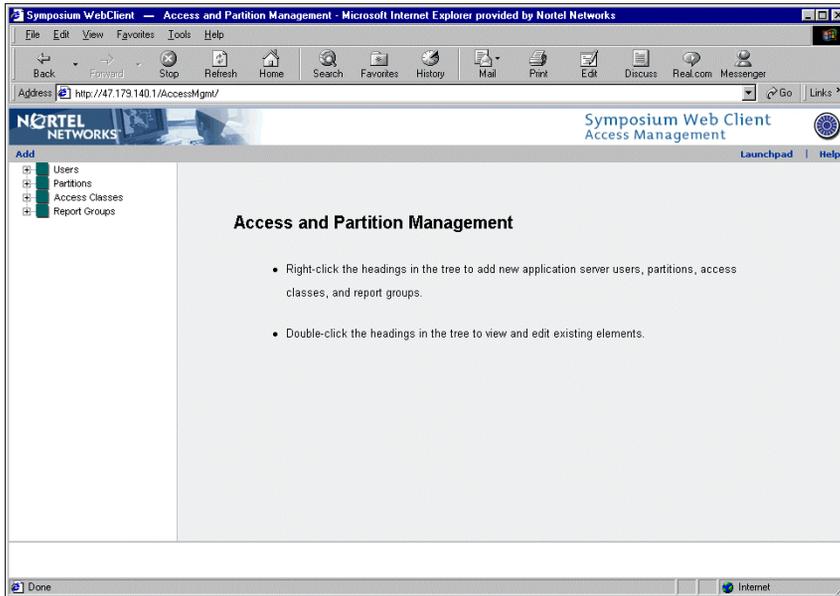
This section provides a high-level overview of the following tasks:

- creating report groups
- creating partitions
- creating access classes

Note: After you perform these tasks, you must add and configure Web Client users. When you configure Web Client users, you assign them basic access rights, partitions, access classes, and supervisor/reporting agent combinations. For more information, see “Adding and configuring users” on page 245.

After clicking Access and Partition Management from the launchpad, click **Add** from the toolbar in the Access and Partition Management main window to add report groups, partitions, access classes, and Web Client users.

Access and Partition Management main window



For detailed step-by-step procedures about using the Access and Partition Management component, see the Symposium Web Client online Help.

Creating report groups

Introduction

Before you can assign a partition to a user, you must define the partition. Since report groups are added to partitions, you may want to create the report groups first.

There are two categories of report groups in Historical Reporting:

- **Public report groups** These report groups contain the standard public report templates. The six public report groups are Agent Performance, Configuration, Call-by-Call, Networking (only networking versions of the M1/CSE 1000/M1 IE switches), Others, and NCC (on the NCC only).

Note: The current release of the CSE 1000 switch only supports networking over ISDN trunks.

- **Custom report groups** These report groups contain the report templates that users belonging to the group have customized and want to share with other members of the report group. The custom report groups that you create in this window are for use in Historical Reporting. You can assign any unique name to these groups.

Public report groups versus Custom report groups

Unlike the *public* report groups that contain all of the standard templates, *custom* report groups do not contain any standard templates. The custom report groups that you create in Access and Partition Management are folders that enable Historical Reporting users who belong to the same group to share their customized reports. Users can customize a standard template and save it in their group folder so that other members of their group can use the same customized report.

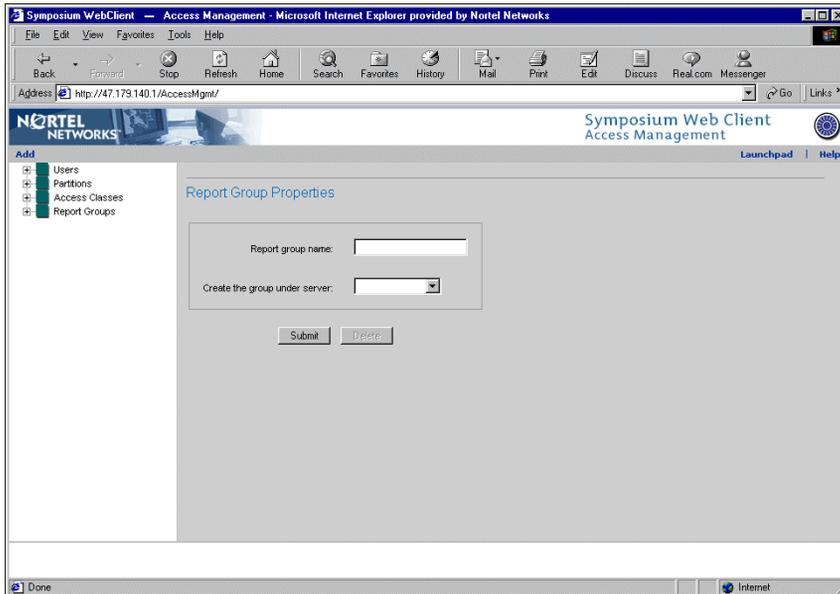
You can create *custom* report groups to reflect each department in your call center, such as the Sales Group or the Marketing Group. If you are configuring a bureau call center, you can also create separate groups for each company sharing the call center, such as the Best Air Group and the Econo Air Group. In this way, you can keep customized reports that contain company information separate from other companies in the same call center.

Report groups also enable you to grant a user access to a very limited number of reports. For example, if you do not want to give a user access to any of the standard report templates, you can create a custom report group and add it to the partition assigned to the user. When the user opens Historical Reporting, he or she sees only the custom report group folder, and can only see reports that other members of the group have saved in the group folder.

After you create a report group, you must add it to a partition created under the *same server* as the report group. Then you must assign the partition to the users belonging to the report group. When these users log on to Symposium Web Client, they see the report group name in Historical Reporting under the server where you created it.

To add a new report group, select Add → New Report Group from the toolbar in the Access and Partition Management main window.

Report Group Properties window



Once you name the Report Group and identify the server to which you are adding the Report Group, click **Submit**. The new Report Group appears on the system tree under Report Groups.

Note: Do not use the ampersand symbol (&) in the report group name.

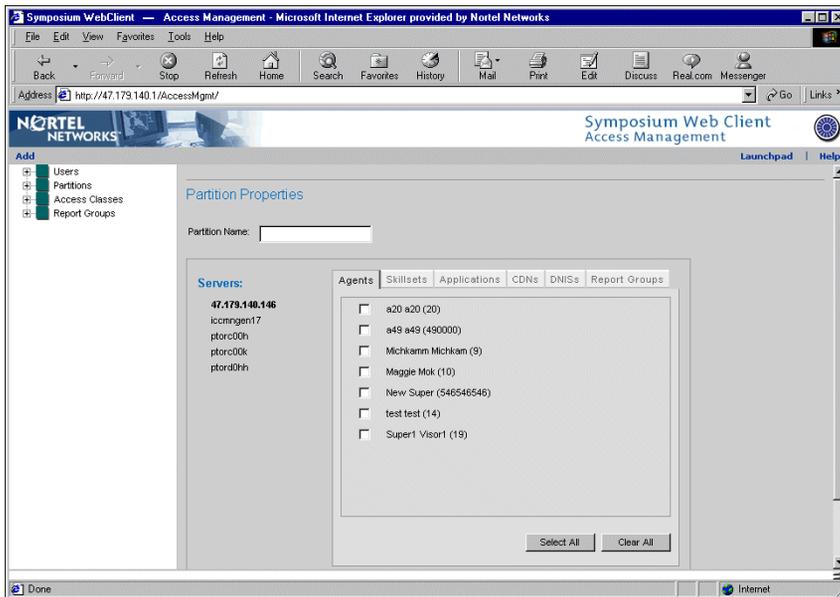
Creating partitions

Introduction

To create a new partition, select Add → New Partition from the toolbar in the Access and Partition Management main window.

Note: Do not use the ampersand symbol (&) in the partition name.

Partition Properties window



Note: You can create a partition on multiple servers, but you must choose the partition properties on one server before selecting the next server.

Partition properties

When you create a partition, you can specify the following types of data:

- agents

- skillsets
- applications
- CDNs
- DNISs
- report groups

When you assign a partition to a user that contains all six types of data, the user sees either all of the data types in the partition, or a fraction of them, depending on the Symposium Web Client component that the user is using. The Symposium Web Client components are each designed to allow users to work with particular types of data. For example, Contact Center Management is strictly for configuring and managing call center supervisors and agents; therefore, the only partition elements that appear in Contact Center Management are agents.

If you assign a partition containing all six elements to a user, the user sees the following elements in each of the Web Client applications:

Component	Types of data available in the partition
Historical Reporting	<ul style="list-style-type: none"> ■ skillsets ■ agents ■ applications ■ CDNs ■ DNISs ■ report groups
Real-Time Reporting	<ul style="list-style-type: none"> ■ skillsets ■ agents ■ applications
Contact Center Management	<ul style="list-style-type: none"> ■ agents

A partition can contain any combination of the six elements, but it does not have to contain all elements. For example, it can contain only skillsets and agents, but not CDNs, DNISs, applications, or report groups.

After you create the partition, you must assign it to the appropriate Symposium Web Client users. Once you assign the partition, the user can view the partitioned data in the real-time displays, in the historical reports, and in the Users table in Contact Center Management.

ATTENTION

The supervisor/reporting agents feature is similar to agent partitions. If you do not assign a partition or a supervisor/reporting agent combination to a user, then that user can see *all* data pertaining to the call center in Real-Time Reporting, Historical Reporting, and Contact Center Management on all servers in the network, assuming that the user has been given basic access rights to these components. Users cannot see data that is not included in their partition. Therefore, when you add an agent in Contact Center Management, you must also add the agent to the user's partition to enable the user to see the agent in the real-time displays, historical reports, and in Contact Center Management. However, if you assign a user a supervisor/reporting agent combination, you do not have to update the user's profile when you add a new agent; the supervisor/reporting agent combination is automatically updated as new agents are added and, therefore, always includes all agents assigned to the supervisor. For more information, see the "Supervisor/reporting agents feature" on page 247.

Agent partitions and supervisor/reporting agent combinations

In addition to assigning a Web Client user a partition, you can assign the user a supervisor/reporting agent combination. For more information, see the "Supervisor/reporting agents feature" on page 247.

When you assign a Web Client user a partition containing agents, it is similar to assigning the user a supervisor/reporting agent combination, except for the differences outlined in the following table:

Partitions containing agents	Supervisor/reporting agent combination
<p>You can customize partitions.</p> <ul style="list-style-type: none"> ■ You can specify which agents you <i>want</i> the Web Client user to see, on a per server basis. 	<p>You cannot customize supervisor/reporting agent combinations.</p> <ul style="list-style-type: none"> ■ When you assign a Web Client user a supervisor/reporting agent combination, you automatically grant the user access to <i>all</i> the supervisor's reporting agents, on a per server basis.
<p>Partitions are not dynamic.</p> <ul style="list-style-type: none"> ■ When you assign a new agent to a supervisor, you must manually update the partition assigned to the supervisor (the Web Client user) to include the new agent. 	<p>Supervisor/reporting agent combinations are dynamic.</p> <ul style="list-style-type: none"> ■ When you assign a new agent to a supervisor, the corresponding supervisor/reporting agent combination is automatically updated to include the new agent. Any Web Client users who have this supervisor/reporting agent combination assigned to them automatically have access to this new agent.

Based on your call center configuration, you may want to use a combination of partitions containing agents and supervisor/reporting agent combinations.

To see an example of how you would configure a Web Client user and assign him or her partitions, supervisor/reporting agent combinations, and other features, such as access classes and report groups, see “Sample task flow for configuring Web Client users” on page 255.

Partitions in Historical Reporting and Real-Time Reporting

Note: This section only includes information on partitions; it does not include details on the supervisor/reporting agents feature. For more information on this feature, see the “Supervisor/reporting agents feature” on page 247.

In Historical Reporting and Real-Time Reporting, users are restricted to viewing only the types of data included in the partition assigned to them. For example, if you assign a partition to a user that only contains report groups, then that user sees no data in Real-Time Reporting because report groups do not apply to real-time displays. Likewise, in Historical Reporting, this same user sees the report groups included in the partition, but does not see any data because only report groups are included in the partition assigned to the user.

Therefore, when you create and assign a partition to Real-Time and Historical Reporting users, you must consider the types of data that these users have to monitor in the real-time displays and historical reports.

Note: If you do not assign a partition to a Historical Reporting user, then the user automatically has access to all data *and* all public report templates (the standard report templates included with Symposium Web Client). Likewise, if you do not assign a partition to a Real-Time Reporting user, then the user sees all data in the real-time displays, assuming that the user has been given basic access rights to this component.

In Historical Reporting, if users do not choose the data elements they want to see in a report by defining the selection criteria, then the generated report automatically includes all the data in the user’s partition that is applicable to the report type. For example, if the user generates an Agent Performance report and does not select any agents, the report includes all agents in the user’s partition.

The exception to this rule occurs when

- the partition contains more than 250 data elements of a particular type (for example, more than 250 agents)
- the user does not define the selection criteria

In Symposium Web Client, users can select a maximum of 250 elements to include in the report. However, when they do not make a selection, and when the partition contains more than 250 data elements, the generated report contains *all* data configured in the system, including data outside the partition.

If the partition contains 250 agents or less, and the user does not define the selection criteria, then the report contains only the agents in the user's partition.

It is recommended, therefore, that administrators remind Web Client users to define the selection criteria before generating reports. If the user wants to view more than 250 elements in the report, then Nortel Networks recommends that he or she generate more than one report, defining the selection criteria for each report separately.

Partitions in Contact Center Management

Note: This section only includes information on partitions; it does not include details on the supervisor/reporting agents feature. For more information on this feature, see the "Supervisor/reporting agents feature" on page 247.

As with Real-Time and Historical Reporting, if you do not assign a partition to a Contact Center Management user, then the user sees *all* agents (and supervisors). In Contact Center Management, users are only restricted to viewing certain agents if the partition assigned to them contains at least one agent. In the previous example, if you assign a Contact Center Management user the partition containing only report groups, then the user still sees all agents in Contact Center Management because the partition does not specify the agents that the user can see. If you do *not* specify the agents the user can see, then the user sees *all* agents. However, once you include one agent in the partition, the user is restricted to viewing that one agent (and all supervisors). It is very important, therefore, that you include all agents assigned to a Web Client user in the user's partition.

Note: Alternately, to avoid having to update the list of agents in the partition, you can use the supervisor/reporting agents feature, which enables you to associate the supervisor's Web Client user profile with his or her supervisor profile (which, in turn, is linked to *all* the supervisor's reporting agents). This association is dynamic, meaning that each time you assign an agent to the supervisor, the agent is automatically associated with the Web Client user profile. For more information, see the "Supervisor/reporting agents feature" on page 247.

Partitions and your call center

Partitions are especially useful when competing companies share the same bureau call center. In the following example, the two companies that share the call center are Best Air and Econo Air.

To grant users access to data pertaining only to their company, administrators can create partitions within the call center and assign the partitions to different users, thereby restricting the view of the call center data that each user has.

For example, at a Toronto call center, there are 18 skillsets, 10 of which apply to agents answering calls for Best Air, while the remaining 8 skillsets apply to agents answering calls for Econo Air. To divide the call center so that supervisors see only the call activity applicable to their company, the call center administrator creates the following two partitions at the Toronto site:

- The first partition contains the 10 Best Air skillsets and the agents that answer these calls.
- The second partition contains the 8 Econo Air skillsets and the agents that answer these calls.

After creating these partitions, the call center administrator assigns them to the appropriate supervisors. When the supervisors view the Real-Time Reporting displays or the historical reports, they see only those elements in the partitions to which they belong.

Partitions are also useful if you want to separate your call center into different departments within the same company. For example, the administrator can create separate partitions for the Sales and Marketing departments, and assign each partition to supervisors working in each department.

Note: If an administrator does not assign a partition to a user, then that user can see all data pertaining to the call center in Real-Time Reporting, Historical Reporting, and Contact Center Management. In this example, therefore, if the administrator does not assign a partition to the supervisors, then the real-time displays, historical reports, and the detail and assignment mode windows in Contact Center Management contain all agents configured on the selected server.

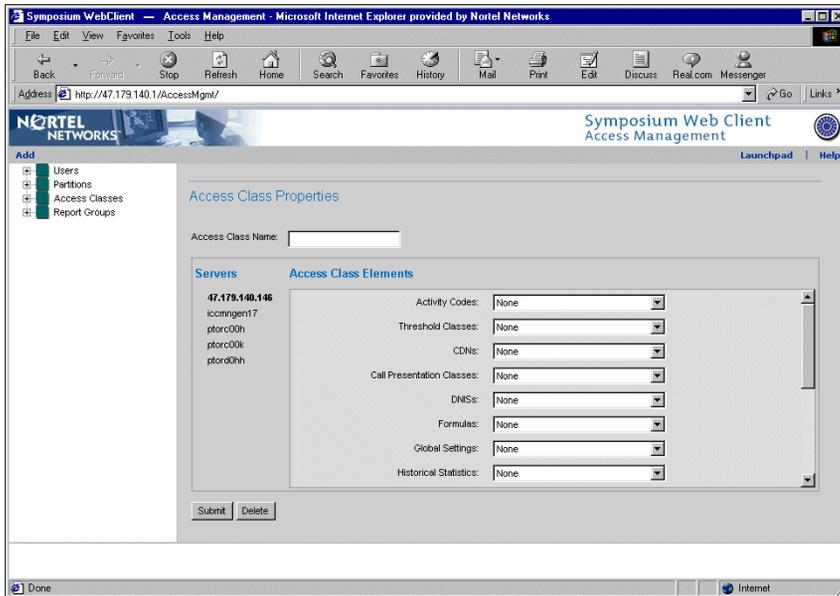
Creating access classes

Introduction

To create a new access class, select Add → New Access Class from the toolbar in the Access and Partition Management main window.

Note: Do not use the ampersand symbol (&) in the access class name.

Access Class Properties window



When you create a new access class, use a descriptive name for the type of user who will have this access level, or the type of privileges available at this access level. Once you type the name for the new access class, you must select each of the servers on which you want to create the access class. The server's access class elements appear.

Notes:

- You create an access class that spans multiple servers (if you work in a network), but you must choose the access class properties on one server before selecting the next server.
- The access class settings for all properties default to *None* for each server.
- To grant access on all servers in your network, you must configure each server shown in the list of servers.
- When you grant a user access privileges that span multiple servers, the user only needs to log on to one server—the application server—to access all servers included in the access class. Users no longer need to log on to each individual server to which they have access.

In the **Access Class Elements** section, select the access levels for the elements that you want to make available to this access class.

ATTENTION

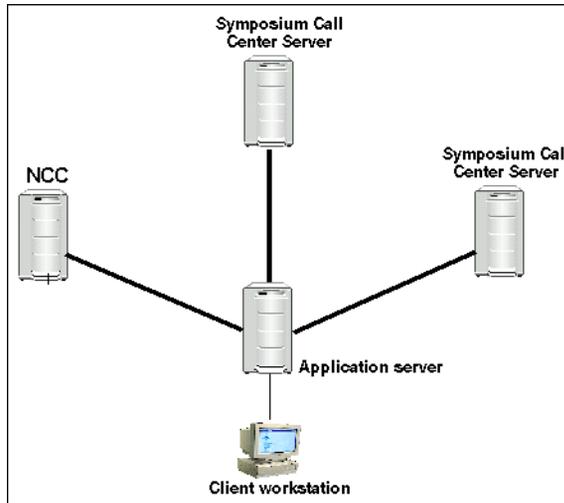
If you grant the user basic access to Contact Center Management, then you must also assign an access class to the user that includes *Agents and Supervisors access* on at least one server. If you do not assign the user an access class with this privilege on at least one server, then the user sees no data in Contact Center Management.

Likewise, if you grant the user basic access to Configuration, you must also assign an access class to the user that includes at least one of the Configuration access class elements, such as skillsets or DNISs. If you do not assign the user an access class with at least one of these privileges on at least one server, then the user sees nothing in Configuration.

Access classes and servers

In Symposium Web Client, each access class that you create spans multiple servers (if you work in a multiple Symposium Call Center Server environment). However, you configure and manage the access classes by logging on to just *one* server—the application server, where access classes are stored.

The following diagram outlines a simplified network configuration for Symposium Web Client. When you log on to the application server from a client workstation, you can use the Access and Partition Management component to configure access classes for the servers in Symposium Call Center Server, and for the Network Control Center (NCC) server.



Each access class that you create spans all servers in the network, even if you do not select any access class elements on a particular server. For example, in the above network scenario, you create an access class that contains Configuration access elements only on the NCC server, and you assign it to a user. By not specifying any access elements on any other server in the network, you limit the user's actions on all servers, not just on the NCC server. This user does not have access to any of the Configuration elements on either of the servers in Symposium Call Center Server; the user can only perform the actions included in the access class to configure the NCC server.

If the user needs to configure either of the servers in Symposium Call Center Server, you must edit the user's access class to include access rights on the other servers.

Note: When you grant a user access privileges that span multiple servers, the user only needs to log on to one server—the application server—to access all servers included in the access class. Users no longer need to log on to each individual server to which they have access.

Defining typical call center administrator access

The following is an example of the access privileges that an administrator might have in a typical call center on at least one server in the network. He or she can do the following:

- Read, update, create, and delete all call presentation classes, skillsets, activity codes, phonesets, DNISs, routes, IVR ACD-DNs, CDNs, scripts and script variables, formulas, threshold classes, and all users.
- View and assign all agents in agent to supervisor assignments and agent to skillset assignments.
- Create and run any report in Historical Reporting, and create and view all real-time displays.
- Edit all historical statistics, real-time statistics, and applications.
- View the status of Emergency Help requests.

To give a call center administrator these sample access privileges in Symposium Web Client, you must use a combination of two levels of security: basic access rights and access classes.

Note: To ensure that the administrator always has access to *all* data on the applicable server, do not assign the administrator a partition. If you do not assign a partition, the user automatically sees *all* available data. Conversely, to restrict the administrator's access to specific data, assign the administrator a partition containing only the applicable data on the appropriate server.

1. Create an administrator access class that contains read, update, create, and delete access for the following elements on the applicable server: call presentation classes, skillsets, activity codes, phonesets and voice ports, DNISs, routes, IVR ACD-DNs, CDNs, formulas, threshold classes, and agents and supervisors.

This access class must also contain read and update access for historical statistics and real-time statistics.

2. Create the administrator user profile in Access and Partition Management, and give the administrator basic access rights to all components in Symposium Web Client, except Access and Partition Management. (Users who have basic access to Access and Partition Management have overall administrative privileges, and can create and delete access classes, partitions, report groups, and Web Client users. There must be one administrator with this privilege in the call center network.)

When you grant basic access to the remaining components of Symposium Web Client, you enable the administrator to read, update, create, and delete all scripts and script variables, create and run any report in Historical Reporting, create and view all real-time displays, and view the status of Emergency Help requests.

Note: When you grant users basic access to Real-Time Reporting and Historical Reporting, they can access these components on all servers in the network. However, you can restrict the data that a user can view on each server by assigning a partition to the user. For example, if a user should not have Real-Time Reporting capabilities on one server, then you can assign a partition to the user that does not contain any data for that server. The user can still open the Real-Time Reporting component on that server, but cannot view any data in any of its real-time displays.

3. Assign the access class to the administrator.

If the administrator requires access privileges on more servers in the network, you can add the access privileges on the additional servers to the administrator's access class.

Defining typical supervisor access

The following is an example of the access privileges that a typical call center supervisor might have on one server in the network. He or she can do the following:

- View and edit users, and view and assign all agents in agent to supervisor assignments and agent to skillset assignments.
- Create and run agent performance reports in Historical Reporting.
- Create and view all real-time displays.
- View the status of Emergency Help requests.

To give a call center supervisor these access privileges in Symposium Web Client, you need to use a combination of up to four features: basic access rights, access classes, and partitions or supervisor/reporting agent combinations.

1. Create a supervisor access class that contains read and update access for agents and supervisors on the applicable server.

This access class enables the supervisor to view and edit agents and supervisors in Contact Center Management, and view and assign all agents in agent to supervisor assignments and agent to skillset assignments.

Note: If you do not want to allow the supervisor to view and edit users, but only want to allow him or her to create ad hoc assignments, then the access class must contain *Ad Hoc Assignments Only* access for agents and supervisors.

2. Create a partition on the appropriate server that contains all the supervisor's agents, the appropriate skillsets, applications, and the Standard Agent Performance report group.

This partition enables the supervisor to work with his or her agents in Contact Center Management, view these agents, skillsets, and applications in the Real-Time Displays, and run any agent performance reports.

Tip: Because partitions are not dynamic, whenever you assign an agent to a supervisor, you must update the partition assigned to the supervisor to include the new agent; otherwise the supervisor will not see the agent in the real-time displays or historical reports. To avoid having to update the list of agents in the partition, you can use the supervisor/reporting agents feature, which enables you to associate the supervisor's Web Client user profile with his or her supervisor profile (which, in turn, is linked to all the supervisor's reporting agents). This association is dynamic, meaning that each time you assign an agent to the supervisor, the agent is automatically associated with the supervisor profile. In addition to this association, create a partition containing the appropriate skillsets, applications, and the Standard Agent Performance report group. The combination of the partition and the supervisor/reporting agent association enables the supervisor to always have an up-to-date list of agents, and to view their skillsets and applications in the real-time displays and historical reports. For more information, see the "Supervisor/reporting agents feature" on page 247

3. Create the supervisor user profile in Access and Partition Management and give the supervisor basic access rights to Real-Time Reporting, Historical Reporting, Contact Center Management, and Emergency Help.

This enables the supervisor to have basic access to each of these components, create and view real-time displays (containing only the data included in their partition), create and run historical reports (only the agent performance reports included in their partition, and only with the partitioned agents, skillsets, and applications), and view the status of Emergency Help requests.

4. Assign the access class, the partition, and, optionally, the supervisor/reporting agent combination to the supervisor's Web Client user profile.

If the supervisor requires access privileges on more servers in the network, you can add the access privileges on the additional servers to the supervisor access class.

To view an example of how you would configure a Web Client user and assign him or her partitions, supervisor/reporting agent combinations, and other features, such as access classes and report groups, see "Sample task flow for configuring Web Client users" on page 255.

Note: If you have included agents in the partition assigned to the supervisor, then whenever a new agent is assigned to the supervisor, you must add the agent to the supervisor's partition so that the supervisor can monitor the agent in Real-Time and Historical Reporting, and can view the agent in Contact Center Management. You can avoid having to update the agents in the partition by associating a supervisor/reporting agent combination with the supervisor's Web Client user profile. This association is dynamic, meaning that each time a new agent is assigned to the supervisor, the agent is automatically associated with the supervisor's user profile. For more information, see the "Supervisor/reporting agents feature" on page 247.

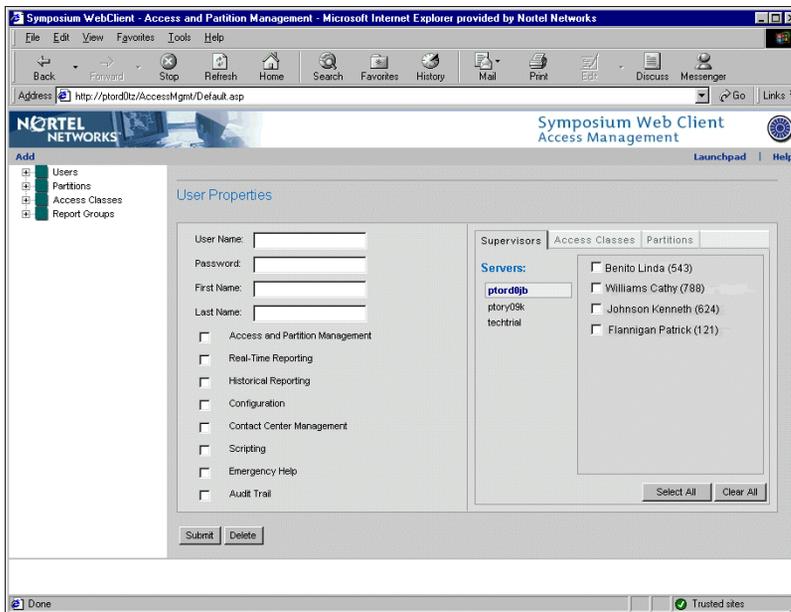
Adding and configuring users

Introduction

You can create Web Client users using the Access and Partition Management component. To add a new Web Client user, select Add → New User from the toolbar in the Access and Partition Management main window.

Note: Do not use the ampersand symbol (&) in the user's name.

User Properties window



Assigning basic access rights, access classes, partitions, and supervisor/reporting agent combinations

When you define Web Client users, you assign to them

- basic access to the appropriate components within Symposium Web Client

- access classes that control the *actions* they can perform in these components (On the **Access Classes** tab, you can see the Access Classes that you created.)
- partitions and supervisor/reporting agent combinations that control the *data* they can see in these components (On the **Partitions** tab, you can see the partitions that you created, and on the **Supervisors** tab, you can see the list of all supervisors who are configured on each server in your network.)

ATTENTION

Once you create a user, you cannot modify the user name. You must delete the user and create a new user with the new name.

Users with Access and Partition Management access have administrator privileges in Symposium Web Client, enabling them to perform almost all administrative functions. However, only the default administrator, *webadmin*, can access and use the Configuration spreadsheets for uploading and downloading configuration data, and can add, edit, and delete servers in Configuration.

To view an example of how you would configure a Web Client user and assign him or her partitions, supervisor/reporting agent combinations, and other features, such as access classes and report groups, see “Sample task flow for configuring Web Client users” on page 255.

Supervisor/reporting agents feature

Introduction

The supervisor/reporting agents feature enables you to dynamically link a supervisor and all his or her reporting agents with one or more Web Client users, thereby enabling the users to view the agents in Symposium Web Client components, such as Real-Time and Historical Reporting, and Contact Center Management. You assign supervisor/reporting agent combinations to Web Client users by using the **Supervisors** tab in the User Properties window of Access and Partition Management.

User types

To fully understand this feature, it is important to outline the difference between the Symposium Call Center Server user and the Web Client user.

User type	User definition	Created in
Symposium Call Center Server user	agents, supervisors, supervisor/agents	Contact Center Management or Configuration
Web Client user	Anyone who logs on to the application server and monitors the performance and activities of Symposium Call Center Server using Symposium Web Client. This user can be a supervisor or an administrator.	Access and Partition Management → Users

After you create a supervisor's Symposium Call Center Server user profile in Contact Center Management (or Configuration), to enable the supervisor to log on to the application server and use Symposium Web Client, you must also configure a Web Client user profile for this supervisor.

Note: Supervisors who do not need to use Symposium Web Client do not need a Web Client user profile; these supervisors only require a Symposium Call Center Server user profile.

When you configure the supervisor's Web Client user profile, you can create a link between two user profiles (the Web Client user profile and the supervisor's Symposium Call Center Server user profile) by using the **Supervisors** tab in Access and Partition Management. Each name on the **Supervisors** tab represents a supervisor *and* all his or her reporting agents on a per server basis. Therefore, when you link a supervisor's name with a Web Client user, you automatically enable this user to see *all* the supervisor's reporting agents.

This association is dynamic, meaning that each time a new agent is assigned to the supervisor, the agent is automatically associated with the supervisor's Web Client user profile (unlike agent partitions, which must be updated manually whenever a new agent is assigned to the supervisor). For more information, see "Agent partitions and supervisor/reporting agent combinations" on page 233.

You can use this feature to enable a supervisor to view all his or her *own* reporting agents, or you can enable one supervisor to see all the reporting agents of another supervisor. For more information, see "Supervisors and associated supervisors" on page 250. The following example shows how to enable supervisor Andrew Engel to view all his *own* reporting agents.

Example

In the first graphic below, you see the Users table in Contact Center Management, and the Symposium Call Center Server user profiles that you created for supervisor Andrew Engel and all his agents.

Andrew has five reporting agents, as follows:

- Maggie Mok
- Sonia Braga
- George Smitts
- Jane Michkam
- John Nelson

Here is the Symposium Call Center Server user profile that you have created for supervisor Andrew Engel.

ptorc00j Users

	Always Visible?	First Name	Last Name	LoginID	User Type	Title	Language	Department	Comment	Supervisor
	<input type="checkbox"/>	Andrew	Engel	3131	Supervisor		English			
	<input type="checkbox"/>	Maggie	Mok	5977955	Agent	designer	German	web client		Engel, Andrew
	<input type="checkbox"/>	Sonja	Braga	1	Agent		English	mktg		Engel, Andrew
	<input type="checkbox"/>	George	Smits	2	Agent		English	grh		Engel, Andrew
	<input type="checkbox"/>	Jane	Michkam	78143	Agent	sup	English	9T34		Engel, Andrew
	<input type="checkbox"/>	John	Nelson	2456	Agent		English	sales		Engel, Andrew
	<input type="checkbox"/>	Nataly	Krasner	654	Agent	SupervisorV&V	English	V&V		Matthews, Liz
*	<input type="checkbox"/>									

The second graphic shows how you configure Andrew Engel’s Web Client user profile in Access and Partition Management. Click the check box beside Andrew Engel’s name in the **Supervisors** tab to link both of his user profiles and enable him to see all his reporting agents in Real-Time and Historical Reporting and Contact Center Management (the components to which you have given him basic access).

User Properties

User Name:
 Password:
 First Name:
 Last Name:

Access and Partition Management
 Real-Time Reporting
 Historical Reporting
 Configuration
 Contact Center Management
 Scripting
 Emergency Help
 Audit Trail

Supervisors | Access Classes | Partitions

Servers:

Engel, Andrew (3131)
 Matthews, Liz (654)

ptorc00j
ptory03k

Select All | Clear All

Click Andrew Engel's name in the Supervisors tab to link all his reporting agents to his Web Client user profile.

Click Liz Matthews in the Supervisors tab to link all her reporting agents to Andrew Engel's Web Client user profile.

Note: To enable Andrew Engel to see all the reporting agents of the other supervisor configured on server ptorc00j, click the check box beside Liz Matthews’ name. This way, Andrew Engel can act as the associated supervisor for her agents. For more information, see “Supervisors and associated supervisors” on page 250.

Supervisors and associated supervisors

You assign agents directly to a supervisor who has the primary responsibility for them. In the Symposium Call Center Server client, when this *primary* supervisor is unavailable, an *associated* supervisor provides backup by monitoring the agents in the real-time displays and historical reports.

In Symposium Web Client, the concept of an associated supervisor differs slightly from the Symposium Call Center Server client. Instead of designating associated supervisors, you can use two features—partitions or the supervisor/reporting agents feature—to share supervisors' agents with other supervisors who can monitor their agents in their absence.

While partitions enable you to assign *specific* agents to a Web Client user on a per server basis, the supervisor/reporting agents feature enables you to assign *all* of a supervisor's reporting agents to Web Client user on a per server basis. Partitions are useful, therefore, for assigning associated agents (*some* of a supervisor's agents to another supervisor), while the supervisor/reporting agents feature is useful for assigning *all* of a supervisor's reporting agents. You can use either of these features, or a combination of both, to control the agent data that Web Client users can see.

Example

The company Best Air has two sales departments, Europe and Canada. The two corresponding supervisors for each department are Andrew Engel and Liz Matthews. The administrator creates two partitions for the call center, one for each supervisor. Each partition contains all the *associated* agents for each supervisor, plus the required skillsets, CDNs, DNIS, applications, and report groups. The administrator also assigns a supervisor/reporting agent combination to each supervisor, enabling them to automatically view all their own *reporting* agents.

In this example, supervisor Andrew Engel has five agents reporting directly to him. These agents are assigned to him in Contact Center Management, and are assigned to his Web Client user profile through the supervisor/reporting agents feature in Access and Partition Management. The partition assigned to him includes seven of the ten agents who report directly to Liz Matthews, making

Andrew the associated supervisor for these seven agents. When Liz is unavailable, Andrew can monitor these seven agents in the real-time displays, historical reports, and Contact Center Management, in addition to his own reporting agents.

Result in Real-Time Reporting

In Real-Time Reporting, Andrew can create and use filters to specify the agents he wants to see in the real-time displays—either his reporting agents, Liz’s agents (Andrew’s associated agents), or a combination of both.

Result in Historical Reporting

In Historical Reporting, Andrew can use the selection criteria to specify the agents he wants to include in reports.

Result in Contact Center Management

In the assignment mode of Contact Center Management, Andrew sees all the agents included in the partition assigned to him (his associated agents) and the agents included in the supervisor/reporting agent combination assigned to him (his reporting agents). In the detail mode of Contact Center Management, Andrew sees only the agents included in the partition assigned to him (Liz’s seven agents). For more information, see “Partitions and supervisor/reporting agent combinations in Contact Center Management” on page 253.

Note: To make Andrew Engel the associated supervisor for *all* of Liz’s reporting agents, instead of manually adding all the agents to a partition and assigning the partition to Andrew, use the supervisor/reporting agents feature to link Liz Matthews’ profile with Andrew’s Web Client user profile. For more information, see “Agent partitions and supervisor/reporting agent combinations” on page 233.

Supervisor/reporting agent combinations in Symposium Web Client components

When you assign a supervisor/reporting agent combination to a Web Client user, the agents appear in different ways in Real-Time Reporting, Historical Reporting, and Contact Center Management. Since this guide is intended for call center administrators, this section gives only a brief overview of Real-Time and Historical Reporting, as they are normally used by supervisors. For more information on these components, therefore, see the *Symposium Call Center Web Client Supervisor's Reference Guide*.

The section on Contact Center Management is more detailed because users with administrator privileges often use this component. It includes information about partitions, as well as supervisor/reporting agent combinations, because each of these features behaves differently in the assignment mode and detail mode of this component.

Supervisor/reporting agent combinations in Real-Time Reporting

When you assign a Web Client user a supervisor/reporting agent combination, the user can see all the applicable reporting agents in their private agent real-time displays (assuming the user has basic access to Real-Time Reporting).

Just as the user can assign a filter to a display so that he or she sees only the filtered information in the display, so too can the user assign a supervisor/reporting agent combination to view all the applicable reporting agents in the agent display. Both the filters the user has created and the supervisor/reporting agent combinations assigned to the user appear on the **Filters** tab in Real-Time Reporting. The user can assign a filter, a supervisor/reporting agent combination, or both, to a display. For more information on Real-Time Reporting, see Chapter 3 in the *Symposium Call Center Web Client Supervisor's Reference Guide*.

Supervisor/reporting agent combinations in Historical Reporting

In Historical Reporting, Web Client users can see the agents included in the supervisor/reporting agent combinations assigned to them by choosing the agent names individually from the **Selection Criteria** box (assuming the user has basic access to Historical Reporting). The **Selection Criteria** box contains all data included in the partitions and supervisor/reporting agent combinations assigned to the user. Each type of data is included in a filter (for example, an Agent Name filter, or an Agent Login ID filter). The available filters depend on

the type of statistics included in the report. For example, the Agent Performance report may contain two filters—Agent Name and Agent Login ID. When the user selects either filter, then all agents included in the partitions and supervisor/reporting agent combinations assigned to the user (on the selected server) appear in the **Selection Criteria** box. For more information on Historical Reporting, see Chapter 4 in the *Symposium Call Center Web Client Supervisor's Reference Guide*.

Partitions and supervisor/reporting agent combinations in Contact Center Management

Contact Center Management differs from Real-Time and Historical Reporting in that partitions and supervisor/reporting agent combinations behave distinctly in the detail mode and assignment mode. This behaviour is designed to accommodate the two types of users who work in Contact Center Management—supervisors and administrators.

Normally, users whose access class enables them to work only in assignment mode are supervisors. These users can only create ad hoc agent to supervisor and agent to skillset assignments; they cannot add, edit, create, or delete users, or schedule assignments. Users who can work in both assignment and detail mode often have administrator privileges in Symposium Web Client, enabling them to perform all functions in Contact Center Management.

Users with administrator privileges usually need to see *all* supervisors and agents in Contact Center Management so they can perform their required duties, such as editing and deleting user profiles, and creating and scheduling assignments. The best way to ensure that these users always see all agents is to *not* assign a partition or a supervisor/reporting agent combination to them. (Once you assign the user a partition containing agents or a supervisor/reporting agent combination, then the user sees *only* the agents assigned to him or her.)

Since most supervisors are restricted to viewing specific data in the call center, Symposium Web Client administrators usually assign partitions containing this data to them. As an added way of controlling the data that supervisors can see, administrators can also assign supervisor/reporting agent combinations to them. In the assignment mode of Contact Center Management—the mode most often used by supervisors—this is the hierarchy of data control: partitions come first, followed by supervisor/reporting agent combinations. Therefore, if an administrator does not assign a partition, but assigns a supervisor/reporting

agent combination to a user, then that user still sees *all* agent data in the Supervisor and Skillset windows. The administrator must first define the data the user can see by assigning him or her a partition, before further refining the data by assigning a supervisor/reporting agent combination.

To determine the data that a user can see in detail mode, use only partitions; the supervisor/reporting agents feature only affects the agents a user can see in assignment mode, and only if the user has also been assigned a partition. In both modes, if you do not assign the user a partition, but you assign a supervisor/reporting agent combination, then the user still sees all agents. If you do not want a user to see all agent data in the detail mode of Contact Center Management, then you must assign the user a partition containing the agents who you want the user to see.

The following table summarizes the effect that agent partitions and supervisor/reporting agent combinations have on the assignment mode and detail mode of Contact Center Management.

IF	THEN the user sees in assignment mode	THEN the user sees in detail mode
you do not assign the user a partition or a supervisor/reporting agent combination	all agent data	all agent data
you assign the user a partition containing no agents, and do not assign a supervisor/reporting agent combination	no agent data	all agent data
you do not assign the user a partition, but you assign the user a supervisor/reporting agent combination	all agent data	all agent data

IF	THEN the user sees in assignment mode	THEN the user sees in detail mode
you assign the user a partition containing no agents, and a supervisor/reporting agent combination	only the agents in the supervisor/reporting agent combination	all agent data
you assign a partition containing agents, but do not assign any supervisor/reporting agent combinations	only the agents included in the partition	only the agents included in the partition
you assign the user a partition containing agents and a supervisor/reporting agent combination	the agents included in the partition <i>and</i> the agents in the supervisor/reporting agent combination	only the agents included in the partition

Sample task flow for configuring Web Client users

In this example, your call center contains three supervisors on the Toronto server: John, Sheila, and Cathy. Each supervisor has 10 reporting agents. You assign a combination of partitions and supervisor/reporting agents to arrange the following scenario:

- Each supervisor can automatically see all 10 of their reporting agents in the real-time displays, historical reports, and in Contact Center Management (assuming they have access to these components).
- In addition to his own 10 agents, John can see 5 of Cathy's agents so he can manage them when she is on break.
- In addition to her own 10 agents, Sheila can see the remaining 5 of Cathy's agents so she can manage them when Cathy is on break.

The following table summarizes this scenario:

Supervisor	Agents the supervisor can see in Symposium Web Client
John	<ul style="list-style-type: none"> ■ his 10 reporting agents ■ 5 of Cathy's agents
Sheila	<ul style="list-style-type: none"> ■ her 10 reporting agents ■ the other 5 of Cathy's agents
Cathy	<ul style="list-style-type: none"> ■ her 10 reporting agents

High-level task flow

The following table gives a high-level overview of the steps you need to perform to arrange the scenario listed in this example. For detailed procedures, see the online Help included with the application

Perform this step	in this component
1 Create the Symposium Call Center Server user profiles for the 3 supervisors, John, Cathy, and Sheila.	Contact Center Management → detail mode
2 Create the Symposium Call Center Server user profiles for the 30 agents, assigning the appropriate 10 agents to each of the 3 supervisors created in step 1.	Contact Center Management → detail mode
3 Create any custom report groups that the supervisors require to share customized report templates.	Access and Partition Management → Report Groups
Note: If the supervisors do not need to share customized reports, then you do not have to create report groups.	

Perform this step	in this component
4 Only if the supervisors need to work in Contact Center Management, create the access classes that they will need to perform their duties in this component.	Access and Partition Management → Access Classes
<p>Note: Access classes are only required to work in Configuration and Contact Center Management. If the supervisors require access to Contact Center Management, then you must create an access class including <i>Agents and Supervisors</i> access on at least one server. To enable the supervisors to work only with ad hoc assignments in this component, then assign the <i>Ad Hoc Assignments Only</i> access level; otherwise, assign the appropriate access level within this access class.</p>	

Perform this step	in this component
<p>5 Create partitions for the supervisors, specifying the agents, applications, CDNs, DNISs, and report groups that belong in each partition.</p> <p>For this example, create</p> <ul style="list-style-type: none"> ■ partition A, containing the 5 agents of Cathy's that John will monitor in her absence (along with all the required skillsets, and any applications, CDNs, DNISs and report groups that John needs to view) ■ partition B, containing the remaining 5 agents of Cathy's that Sheila will monitor in Cathy's absence (along with all the required skillsets, and any applications, CDNs, DNISs and report groups that Sheila needs to view) ■ partition C, containing the applications, CDNs, DNISs, and report groups that Cathy needs to view 	<p>Access and Partition Management → Partitions</p>
<p>6 Create the Web Client user profiles for each of the three supervisors.</p>	<p>Access and Partition Management → Users</p>
<p>7 Assign each Web Client user basic access rights to the components they need to use.</p>	<p>Access and Partition Management</p>
<p>Note: Typical supervisors require basic access to Real-Time and Historical Reporting, Contact Center Management, and Emergency Help.</p>	

Perform this step	in this component
<p>8 Assign each Web Client user the appropriate supervisor/reporting agent combination, enabling the user to automatically see all their reporting agents. For more information, see the “Supervisor/reporting agents feature” on page 247.</p> <p>Note: In this example, you assign John’s supervisor profile (and all his reporting agents) to John’s Web Client user profile. Perform the same procedure for both Sheila and Cathy.</p>	<p>Access and Partition Management → Users → Supervisors tab</p>
<p>9 Assign each Web Client user the appropriate access class.</p>	<p>Access and Partition Management → Users → Access Classes tab</p>
<p>10 Assign each Web Client user the appropriate partition. In this example, you assign to John’s Web Client user profile partition A, containing the 5 agents of Cathy’s that he needs to monitor in her absence (along with the appropriate skillsets, applications, CDNs, DNISs, and report groups). You assign partition B to Sheila and partition C to Cathy.</p> <p>Note: If you assign Cathy new agents that you want John or Sheila to monitor in Cathy’s absence, then you must update the partitions assigned to John and Sheila to include the new agents. Alternately, to enable John or Sheila to automatically view <i>all</i> Cathy’s agents, assign Cathy’s supervisor profile (and all her reporting agents) to John’s and Sheila’s Web Client user profiles.</p>	<p>Access and Partition Management → Users → Partitions tab</p>

Perform this step	in this component
<p>11 Click Submit after configuring each user profile.</p> <p>Result: When John, Sheila, and Cathy open Symposium Web Client, they can</p> <ul style="list-style-type: none">■ log on and use the components to which you have given them basic access■ perform the functions their access class enables them to do in Contact Center Management (assuming they have basic access to this component)■ see all their own reporting agents■ see the additional agents and the data included in the partitions assigned to them	Access and Partition Management

Section E: Audit Trail

In this section

Overview	262
Monitored resources	264

Overview

Introduction

Audit Trail allows you to view the most recent actions that users have performed in Symposium Web Client's Configuration component. You can view these changes in a log, and identify which user made the changes.

Note: Audit Trail does not track any changes made on the Symposium Call Center Server client.

Accessing Audit Trail

You can access Audit Trail by clicking Audit Trail on the Symposium Web Client launchpad.

Audit Trail Log window

Time	Event Code	User ID	Client IP	Symposium Server IP	Description
4/10/2001 5:30:28 PM	10100	webadmin	47.11.19.61	47.179.140.146	Phonaset Display Field list 1*24 and 1*18 was modified.
4/10/2001 5:30:11 PM	10100	webadmin	47.11.19.61	47.179.140.146	Phonaset Display Field list 1*24 and 1*18 was modified.
4/10/2001 5:03:54 PM	10100	webadmin	47.11.19.61	47.179.140.146	Phonaset Display Field list 1*24 and 1*18 was modified.
4/6/2001 12:00:21 PM	10171	webadmin	47.11.19.16	47.179.140.164	Site configuration on site PTORCOOH was modified.
4/6/2001 12:46:52 PM	10022	webadmin	47.11.19.16	47.179.140.146	CDN 222222222 was deleted. Name = testtttt
4/5/2001 5:37:14 PM	10020	webadmin	47.11.19.16	47.179.140.146	CDN 5555 was added. Name = testCDN
4/5/2001 5:36:50 PM	10022	webadmin	47.11.19.16	47.179.140.146	CDN 1234567890 was deleted. Name = testCDN
4/5/2001 5:34:17 PM	10161	webadmin	47.11.19.16	47.179.140.164	Network Skillset NetSkill4 was modified.
4/4/2001 7:05:19 PM	10040	guy	47.11.19.16	47.179.140.146	Formula net123 was added.
4/4/2001 7:04:49 PM	10042	guy	47.11.19.16	47.179.140.146	Formula NewTest was deleted.
4/4/2001 6:06:43 PM	10150	guy	47.11.19.16	47.179.140.164	Network Historical Statistics configuration was modified.
4/4/2001 6:06:37 PM	10150	guy	47.11.19.16	47.179.140.164	Network Historical Statistics configuration was modified.
4/4/2001 5:50:23 PM	10110	webadmin	47.11.19.16	47.179.140.146	Real-Time Statistics configuration was modified in the server.
4/4/2001 5:50:05 PM	10110	webadmin	47.11.19.16	47.179.140.15	Real-Time Statistics configuration was modified in the server.
4/4/2001 5:25:14 PM	10141	webadmin	47.11.19.16	47.179.140.15	Threshold Template t was modified. Type = Agent
4/4/2001 5:25:14 PM	10141	webadmin	47.11.19.16	47.179.140.15	Threshold Template t was modified. Type = Agent

You can configure the total number of events that Audit Trail stores by clicking Administration on the toolbar. You can store up to 10 000 events in the database; however, the more events you choose to store, the longer the system takes to retrieve the event information and display it online.

Monitored resources

Audit Trail monitors any additions, modifications, or deletions that a user makes to the following resources:

- call presentation classes
- formulas
- activity codes
- CDNs
- DNISs
- IVR ACD-DNs
- phonesets and voice ports
- route numbers
- skillsets
- threshold templates

Audit Trail also monitors any modifications that a user makes to the following resources:

- network historical statistics configuration
- global settings
- historical statistics configuration
- networking communication parameters
- real-time statistics configuration

Note: Audit Trail does not record changes made using Symposium Call Center Server client PCs.

Section F: Scripting

In this section

Overview	266
Viewing scripts	267
Creating and editing scripts	268
Validating your script	269
Displaying script variables and parameters	270
Viewing, editing, and assigning application threshold classes	272
Working with sample scripts	274
Checking variables for referencing scripts	277

Overview

Introduction

The Scripting component of Symposium Web Client enables you to write scripts that determine the sequence of steps a call follows once it enters the system. These steps can include call treatment, such as music or ringback, skill-based routing, and IVR.

While working in the Scripting component, you can perform the following procedures:

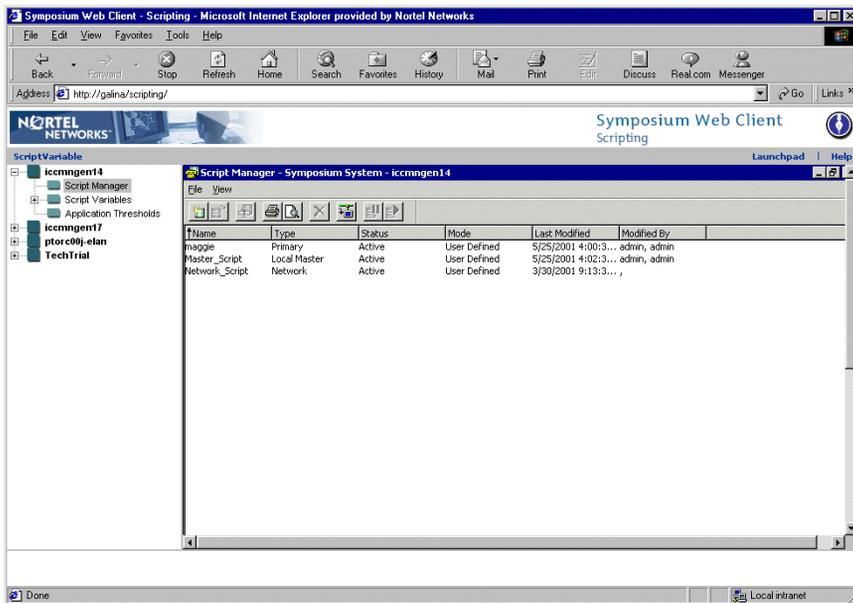
- View existing scripts.
- Create and edit scripts.
- Validate scripts.
- Display all script variables and corresponding parameters.
- View, edit, and assign application threshold classes.

This section provides you with a high-level overview of the Scripting component. For detailed step-by-step procedures, see the online Help in the Symposium Web Client application.

Viewing scripts

You can view a list of the existing scripts for a specific server in Symposium Call Center Server. On the system tree, double-click the server in Symposium Call Center Server to expand the tree, and then click **Script Manager**.

Script Manager window

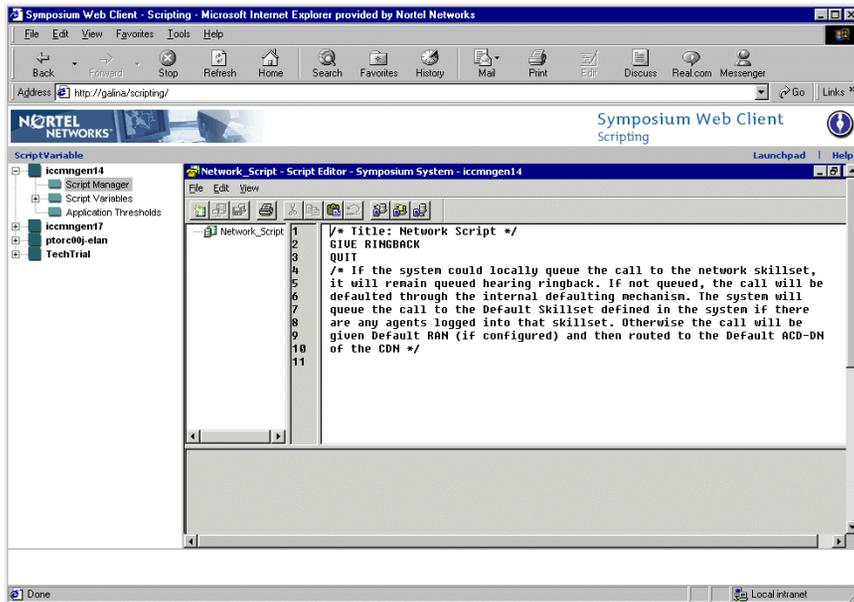


You can display and edit any of the scripts in this window by double-clicking the script that you want to see. The script opens in the Script Editor window where you can modify the call routing instructions.

Creating and editing scripts

In the Script Manager window, you can click **File** → **New** to create a new script, or double-click an existing script to edit it in the Script Editor window. You can make changes to activated scripts, and to scripts that are validated but not activated.

Script Editor window



Note: While writing or editing a script in the Script Manager window, you can click **View** → **Script Commands** to launch the Script Command Reference window, which allows you to insert script elements, such as commands, operators, events, intrinsics, and variables.

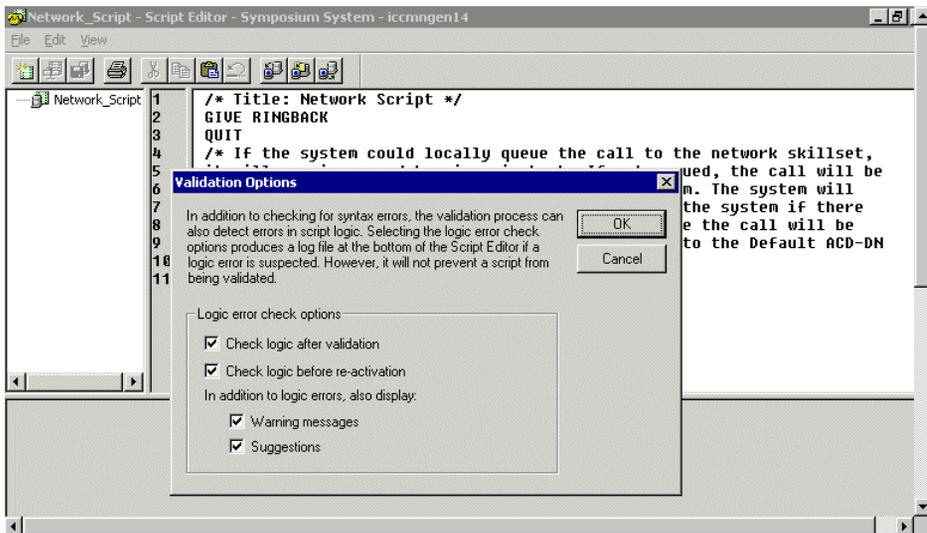
Once you make your changes to a script, click **File** → **Save** to save a validated (inactive) script and **File** → **Activate** to save and activate your changes to an active script. If you are saving a new script, click **File** → **Save**, and assign a unique name to your script that does not exceed 30 000 characters.

Validating your script

You can set the validation options so that the application informs you when you are breaking scriptwriting rules. The rules are designed to eliminate run-time errors that result in improper routing of calls in Symposium Call Center Server.

In the Script Editor window, click **View** → **Validation Options** to display the Validation Options window.

Validation Options window

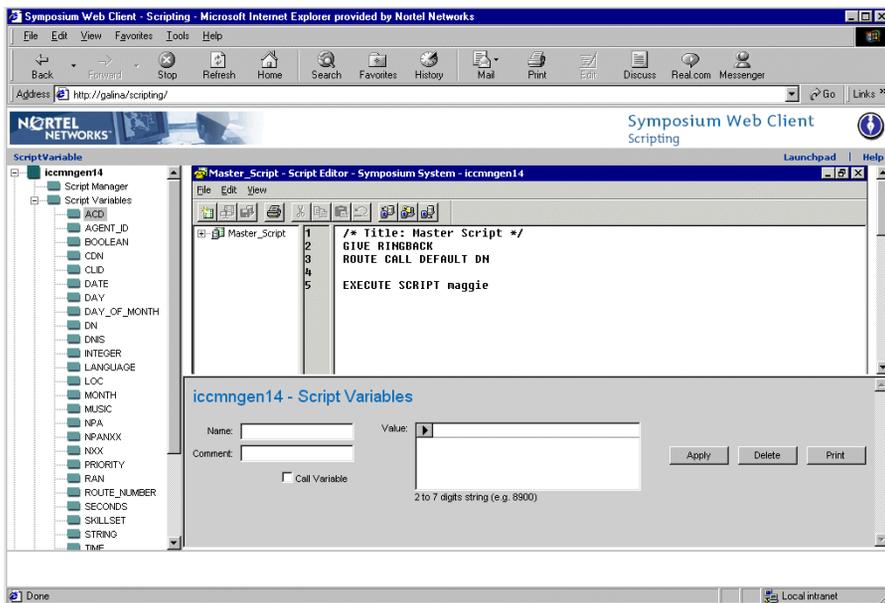


You can configure validation options to enforce scriptwriting rules automatically after a script has been successfully validated, or before an activated script is edited and then reactivated. You can also configure validation options to display warning messages.

Displaying script variables and parameters

When you click **Script Variables** on the system tree, the Script Variables tree appears, displaying all variables configured on the server. To view a specific script variable, click the variable on the tree. The variable appears in the Script Variables window. The parameters of the variable appear in the boxes at the bottom of the window.

Script Variables window



Script variables, like variables used in any programming language, represent a value. You can define a script variable in the Script Variables window and use it in more than one script. When you change a variable in the Script Variables window, all occurrences of that variable are also changed.

Before you create script variables, all system resources, such as RAN routes, music routes, voice ports, CDNs, IVR-DNs, and call treatments must be set up. In addition, all skillsets and agents must be configured on the selected server. And finally, if you plan to create voice segment variables, all of the voice segments must be created.

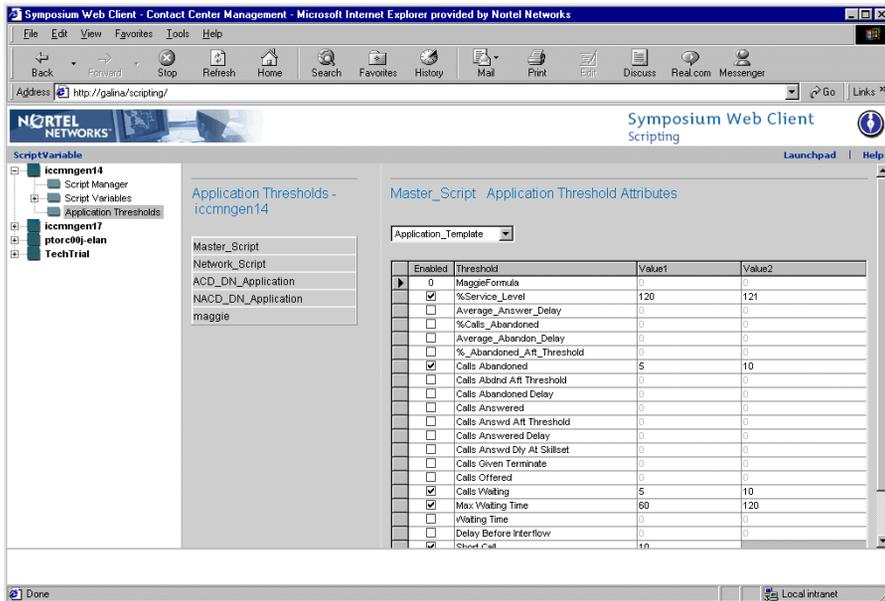
Viewing, editing, and assigning application threshold classes

You can view and edit threshold classes, and assign them to applications in the Scripting component. However, to create new threshold classes, you must use the Threshold Classes window in the Configuration component.

Applications are used for reporting purposes. For the master script and each activated primary script called by the master script, the system automatically creates an application with the same name as the script.

Note: There are no scripts associated with the ACD_DN application or the NACD_DN application.

Application Thresholds window



The screenshot shows the Symposium Web Client interface in Microsoft Internet Explorer. The main content area is titled "Application Thresholds - iccmngen14". It features a table of threshold attributes for the "iccmngen14" application. The table has four columns: "Enabled", "Threshold", "Value1", and "Value2". The "Enabled" column contains checkboxes, and the "Threshold" column contains various performance metrics. The "Value1" and "Value2" columns contain numerical values.

Enabled	Threshold	Value1	Value2
<input type="checkbox"/>	0		
<input checked="" type="checkbox"/>	%Service_Level	120	121
<input type="checkbox"/>	Average_Answer_Delay	0	0
<input type="checkbox"/>	%Calls_Abandoned	0	0
<input type="checkbox"/>	Average_Abandon_Delay	0	0
<input type="checkbox"/>	%_Abandoned_Art_Threshold	0	0
<input checked="" type="checkbox"/>	Calls_Abandoned	5	10
<input type="checkbox"/>	Calls_Abandnd Art_Threshold	0	0
<input type="checkbox"/>	Calls_Abandoned_Delay	0	0
<input type="checkbox"/>	Calls_Answered	0	0
<input type="checkbox"/>	Calls_Answrd Art_Threshold	0	0
<input type="checkbox"/>	Calls_Answered_Delay	0	0
<input type="checkbox"/>	Calls_Answrd Dly At Skillset	0	0
<input type="checkbox"/>	Calls_Given_Terminate	0	0
<input type="checkbox"/>	Calls_Offered	0	0
<input type="checkbox"/>	Calls_Waiting	5	10
<input checked="" type="checkbox"/>	Max_Waiting_Time	80	120
<input type="checkbox"/>	Waiting_Time	0	0
<input type="checkbox"/>	Delay_Before_Interflow	0	0
<input checked="" type="checkbox"/>	Short_Call	10	

To view, edit, or assign application thresholds, click the **Application Thresholds** icon under the appropriate server on the system tree. From the list of applications in the left pane of the window, select the application for which you want to view thresholds. In the right pane, from the drop-down list, select the threshold class. You can make the changes in the table that appears below the drop-down list.

Note: For the new threshold values to take effect, you must click the **Enabled** check box beside the application threshold.

Applications track information about calls, call types, and conditions in the call center. Call center managers and supervisors can view this information by using real-time displays or by running reports against the applications. You can assign thresholds to applications by creating application threshold classes in the Threshold Classes window of the Configuration component, and then applying that threshold class to the application. For a complete list of application thresholds, see the *Symposium Call Center Server Administrator's Guide*.

Working with sample scripts

Introduction

To use the sample scripts included with Symposium Web Client, you must perform the following two procedures:

- Copy the sample scripts included on the Symposium Web Client installation CD, and paste them into the same directory on the application server.
- Import the sample scripts that you want to use from the application server into Symposium Web Client by using the Import command in the Scripting component. The Import command adds the text of the imported script to any text in the current script.

ATTENTION

For detailed information on sample scripts, see the *Nortel Networks Symposium Call Center Server Scripting Guide*.

Note: The variables used in the sample scripts are examples only. If you use a sample script that contains variables, you must create and define the variables on your system.

Before you begin using sample scripts, verify the following:

- All system resources, such as RAN routes, music routes, voice ports, call treatments, DNs, and IVR DNs are set up.
- All variables, agents, and skillsets are created.
- All voice segments for voice prompts are created.

To copy the sample scripts to the application server

- 1 Browse the contents of the Symposium Web Client installation CD, and navigate to the following default folder:
c:\program files\Nortel Networks\WClient\Server\SampleScripts
- 2 Copy the SampleScripts folder and its contents by highlighting the folder and pressing Ctrl+c.

- 3 On the Symposium Web Client application server, navigate to the following default folder:

c:\program files\Nortel Networks\WClient\Server

- 4 In the Server folder, press Ctrl+v to paste the SampleScripts folder and its contents to the application server.

Result: When the system has copied all the sample scripts to the folder, you can begin using them in Symposium Web Client.

To import sample scripts into Symposium Web Client

When you have copied the sample scripts onto the application server, you can begin using them in Symposium Web Client by importing them into either an existing script or a new script in the Scripting component. The Import command adds the text of the imported sample script at the end of any text in the current script.

- 1 You can import a sample script in Symposium Web Client into two different types of scripts:

- a. To import a sample script into an *existing* script, in the Script Manager, double-click the script into which you want to import the sample script.

Result: The script opens in the Script Editor.

- b. To import a sample script into a *new, blank* script, in the Script Manager, click File → New.

Result: The Script Editor opens with a blank starting page.

- 2 In the Script Editor, click File → Import.

Result: The Open dialog box appears.

- 3 From the **Look in** drop-down list, navigate to the sample scripts that you copied to the application server.

- 4 Select the sample script that you want to import.

5 Click **Open**.

Result: The system adds the text of the sample script to the end of the current script.

ATTENTION

The script that you import may contain references to variables. Variables are not imported with the script. You must define the variables on your system.

Checking variables for referencing scripts

Introduction

You can use this procedure to check whether a variable is referenced by any active scripts. If a script variable is referenced by any active scripts, you cannot change its properties (except for its value), rename it, or delete it.

To check variables for referencing scripts

On the system tree, right-click the variable that you want to check.

Result: If the variable is referenced in any activated scripts, then the system lists the script names in a pop-up box. If the box does not appear, then the variable is not referenced in any activated scripts.

Chapter 6

Troubleshooting

In this chapter

Technical support	280
Client PC	282
Application server	287

Technical support

Introduction

If you experience technical difficulties, ensure that you have downloaded the latest Service Updates, Performance Enhancement Packages (PEPs), and addenda for both Symposium Call Center Server 4.0 and Symposium Call Center Web Client. You can download Service Updates and PEPs from <https://www21.nortelnetworks.com/MPL> (for Europe), or from <https://www43.nortelnetworks.com/MPL> (for North America), and the latest installation or documentation addendum from www.nortel-sccs.com.

Nortel Networks personnel use pcAnywhere as a remote support tool. If you require remote support from Nortel Networks, you must install and configure pcAnywhere Version 9.2 on the application server.

Configuring pcAnywhere 9.2 for Symposium Web Client

Use the Windows 2000 Add/Remove Programs utility in the Control Panel to install the software.

ATTENTION

Do not follow the procedures in the Symposium Call Center Server documentation. These procedures do not apply to the Symposium Web Client application server because Remote Access Service (RAS) is not used.

To configure pcAnywhere 9.2

- 1 Double-click the executable to launch the pcAnywhere installation.
Result: The system prompts you to set up your modem.
- 2 Select **TCP/IP, COM port**, and then deselect **Specify a Login Name and Password**.
- 3 Select **Finish**.
- 4 Select **Be a Host PC**.

- 5 Right-click **Modem** and, from the resulting pop-up menu, select **Properties**.
Result: A check mark appears beside Modem connection.
- 6 Click the Settings tab, and select **Launch with Windows**.
- 7 Click the Callers tab, and select **Use PCAnywhere authentication with pcAnywhere privileges**.
- 8 Double-click **Add new caller**, and then add the name, user ID, and password.
Note: For security reasons, you need a user ID and password. Consult your system administrator or distributor to determine which user ID and password you should use.
- 9 Click the Advance tab, and then select **Super user** for all privileges.
- 10 Click the Security tab, Login options, and then select **Make Password Case Sensitive**.

This is a basic configuration that allows Nortel Networks technical support personnel access to the application server. Your company may require additional settings, depending on your network configuration.

Client PC

Are you having problems with Internet Explorer?

Checklist

- Check that you are using the correct version of Internet Explorer on the client PC (version 5.5 with Service Pack 1 or higher).
- Check that the security level for the Trusted sites is set to low, and enable all ActiveX controls and cookies.
- Make sure your Symposium Web Client application server is a trusted site.
- If you are getting error messages from Internet Explorer indicating that your web site cannot run Out of Process Components, follow these steps:

To enable Out of Process Components

- 1 Create a script called `AspAllowOutOfProcComponents.vbs` using any text editor. Insert the following commands:

```
Set objWebService = GetObject("IIS://LocalHost/w3svc")
```

```
' Enable AspAllowOutOfProcComponents.
```

```
objWebService.Put "AspAllowOutOfProcComponents", True
```

```
' Save the changed value to the metabase.
```

```
objWebService.SetInfo
```

- 2 Save the script.
- 3 In Windows Explorer, double-click the script.
- 4 If this fails, reinstall the software.

Are you having display problems?

If the layout of the web interface in Symposium Web Client is distorted, follow these steps.

To check the display settings of your computer

- 1 Click Start → Settings → Control Panel.
- 2 Double-click the **Display** icon.
- 3 On the **Settings** tab, drag the slider in the **Desktop area** box until the value reads at least 1024 x 768 pixels (it cannot be lower than this value).
- 4 From the **Font size** drop-down list, select Small Fonts.
- 5 Click **OK** to save your changes.

To set the font size in Internet Explorer

In Internet Explorer, on the View menu, click Text Size → Medium.

To resize the font

If the text or content displayed in Internet Explorer is too large for the window, and you cannot resize the window, do the following:

In Internet Explorer, on the View menu, click Text Size → Smaller, or Text Size → Smallest.

Are you having problems with real-time displays?

Copying and running the trace tool

You can use the IceRtdTrace tool to verify that client PCs are receiving multicast data from the application server. The IceRtdTrace tool resides on the application server. To use this tool on a client PC, you must copy the tool and its associated files to two floppy disks, and then install them on the client PC.

To copy and run the trace tool

- 1 Navigate to the following path on the application server, where x is the drive on which Symposium Web Client is installed:

x:\Program Files\Nortel Networks\WClient\Server

- 2 Copy the following files to the floppy disks:
 - ICERtdTrace.exe
 - mtld.dll
 - nbcfg95.dll
 - nbcomd.dll

- nbdbapi.dll
 - nbss95.dll
 - nbss_e95.dll
 - nicerr.dll
 - ninccapi.dll
 - nisysd.dll
- 3 Create a new folder, such as **Trace_Tools**, on the client PC that you are testing.
 - 4 Copy the files from the floppy disk to the new folder on the client.
 - 5 On the client PC, rename the file ICERtdTrace.exe to a new name that has a maximum of eight characters (for example, IceTrace).

ATTENTION

The trace tool must be run from the MS-DOS command prompt, and MS-DOS does not accept names with more than eight characters on some Windows operating systems.

- 6 From the MS-DOS command prompt, change the directory to the folder on the client PC to which the files were copied, for example:

```
c:\>cd Trace_Tools
```

- 7 To check if data is being received by the client PC, type the following command:

```
IceTrace -r IPSend <IP Multicast send address>
```

If the client PC is receiving statistics from the application server, the data appears on the monitor. To stop the information from scrolling, press Ctrl+c. You can view the log file that captures the information, IPSndLog.txt, in the same directory.

Are you having problems communicating with the application server?

When Symposium Web Client is installed, it uses the default settings stored in IIS. Ensure that web users have permissions on all directories in the Symposium Web Client web site. If they do not have permissions, contact your site administrator for details on changing the settings in IIS.

Note: A user with administrator rights must always be logged on to Windows 2000 on the Symposium Web Client application server. If an administrator is not logged on to the application server, Symposium Web Client users cannot access the application. To ensure the application server is secure, you can lock the keyboard so that users cannot access the application server locally.

To test communication from the client to the application server

If the client cannot connect to the application server, and you have already checked to make sure that the Web Client user name and password are valid, follow these steps:

- 1 Ping the Symposium Web Client application server.
- 2 Check the IP addresses for the application server(s) and the server(s) in Symposium Call Center Server.
- 3 Check your cabling.
- 4 Make sure the web site is active on the application server.

Contact your system administrator if the web site is active, the IP addresses are valid, and you are unable to successfully ping the Symposium Web Client application server.

To check if Internet Explorer uses a Proxy Server

If the client cannot connect to the application server, check whether Internet Explorer uses a Proxy Server.

On the Internet Explorer menu bar, click **Tools** → **Internet Options** → **Connections** → **Lan Settings**.

If the **User Proxy Server** check box is selected, contact your Proxy Server Administrator to verify that there are no restrictions preventing you from accessing the Symposium Web Client application server.

Are you having printer problems?

To print scheduled reports from the Historical Reporting component and scripts from the Scripting component, you must add and configure a local printer on the application server while logged on as the administrator. To ensure the printer was configured correctly, see “To set up a default printer” on page 142.

Note: Once the printer is configured on the application server, the administrator must remain logged on to the application server for users to access the printer.

Application server

Are you having problems starting Symposium Web Client?

Checklist

- Ensure that the IIS service is installed.
- Ensure that Active Directory is installed.
- Confirm that you are using Internet Explorer v.5.5 with Service Pack 1 or higher (not Netscape Navigator).

To verify that IIS is installed

Click Start → Programs → Administrative Tools → Internet Services Manager.

Result: The Internet Information Services window appears if IIS is installed.

To verify that Microsoft Active Directory is installed

Click Start → Programs → Administrative Tools.

If the following programs are listed on the Administrative Tools menu, Active Directory has already been installed on the application server:

- Active Directory Domains and Trusts
- Active Directory Sites and Services
- Active Directory Users and Computers

Are you having problems communicating with Symposium Call Center Server?

- If Symposium Web Client connects to Symposium Call Center Server through a firewall, your network administrator must configure both the router filters and the firewall to grant access to Symposium Call Center Server.
- You should also check to make sure that the Symposium Call Center Server IP address that you are using is valid.

To test application server communication with Symposium Call Center Server

If the application server cannot connect to Symposium Call Center Server, and you have already checked to make sure that the Symposium Call Center Server IP address is valid, follow these steps from the application server.

- 1 Ping Symposium Call Center Server.
Contact your system administrator if you are unable to successfully ping Symposium Call Center Server.
- 2 Check your cabling.
- 3 Check the IP addresses for the application server(s) and the server(s) in Symposium Call Center Server.
- 4 Check the versions on servers in Symposium Call Center Server, and confirm that they are compatible with Symposium Web Client.

Using ICERTDTrace to trace IP multicast data

Real-Time Display configurations of Symposium Web Client include a diagnostic tool called ICERTDTrace.exe to assist you in determining whether your network has been configured properly for IP multicasting. If you are experiencing Real-Time Reporting or Agent Desktop Displays problems, you can also identify where the problem originates.

For example, you can use ICERTDTrace.exe to determine why real-time reporting is not displaying information on the application server after you have configured RSM on Symposium Call Center Server.

To use ICERTDTrace to trace data sent from the Symposium Call Center Server to the application server

- 1 At a command prompt on the application server, navigate to the Symposium Web Client folder

```
C:\> cd [x]:\Program Files\Nortel Networks\WCClient\Server
```

where [x] is the drive letter for the hard drive on which Windows 2000 Server is installed.

- 2 Enter the following command to trace data sent from Symposium Call Center Server to the application server:

ICERTDTrace -r IPReceive

Output from either of these commands is printed to the screen at run time, and to a text file called IPRcvLog.txt.

To use ICERTDTrace to trace data sent from the application server to clients

- 1 At a command prompt on the application server, navigate to the Symposium Web Client folder

```
C:\> cd [x]:\Program Files\Nortel Networks\WClient\Server
```

where [x] is the drive letter for the hard drive on which Windows 2000 Server is installed.

- 2 Enter the following command:

ICERTDTrace -r IPSend

Output from this command is printed to the screen at run time, and to a text file called IPSndLog.txt.

Are you having problems with Configuration's Upload feature?

- The amount of configuration data you can upload using Symposium Web Client's Configuration component is restricted by the limits you have set in the Parameters tab of the Historical Statistics window in Symposium Call Center Server. For example, if you have a limit of 240 configured CDNs in the Historical Statistics on Symposium Call Center Server, you cannot upload more than 240 CDNs using the Symposium Configuration Tool spreadsheet. Always verify the Symposium Call Center Server limits before beginning the upload process.
- Ensure that you are uploading the template spreadsheet that you downloaded from Symposium Web Client's Configuration component. Do not upload the M1 Data Extraction Tool spreadsheet. You must copy the data from the M1 Data Extraction Tool spreadsheet into the Symposium Web Client spreadsheet template, and then upload.
- If you suspect that there are problems with the Excel application, run Detect and Repair by clicking Help → Detect and Repair. Excel searches for program defects and repairs them.

- If you are using a client PC to upload or download configuration data, try restarting the client PC. If the problems persist, try restarting the application server.

Are the real-time displays blank?

- Ensure that the LAN/WAN supports multicast traffic by contacting your network administrator to confirm that the routers have multicast capabilities.
- Verify that you can send and receive data between Symposium Call Center Server, the application server, and the application server clients. For more information, see “Using ICERTDTrace to trace IP multicast data” on page 288.
- Confirm that the RSM components are sending data to the same IP multicast address.
- Check the IP Receive address for the application server. Make sure that it matches the IP Send multicast address setting in Symposium Call Center Server. See “Modifying RSM settings and multicast rates” on page 55.
- If the Symposium Call Center Server site name is different from its computer name, real-time displays and Agent Desktop Displays will not work for that particular Symposium Call Center Server. Ensure that the Symposium Call Center Server site name is the same as its computer name.

Are you having problems with Active Directory?

Nortel Networks recommends that you install the Windows 2000 support tools for troubleshooting problems with Active Directory.

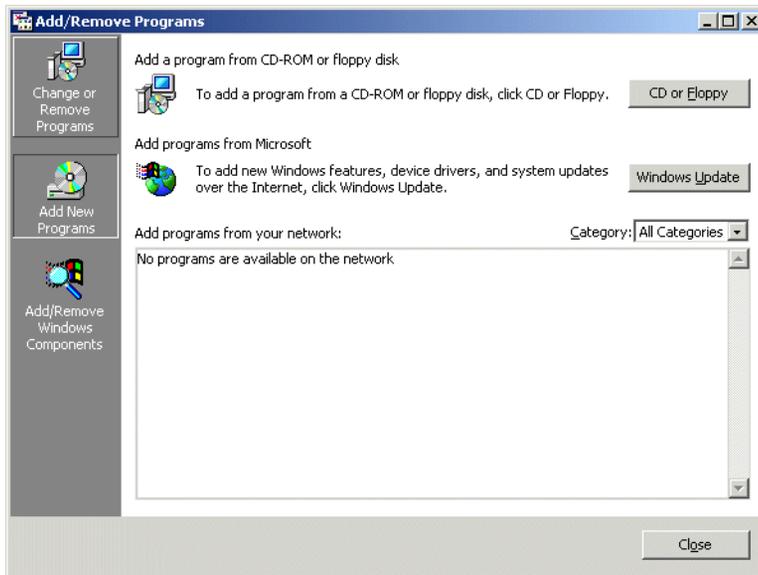
To Install Windows 2000 support tools

- 1 Insert the Microsoft 2000 CD in the application server’s CD-ROM drive.
- 2 Click Start → Settings → Control Panel.

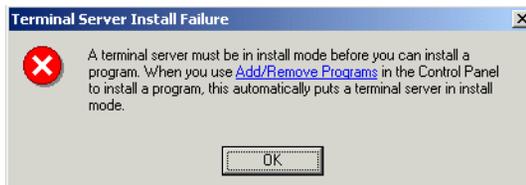
Result: The Control Panel window appears.

3 Click **Add/Remove Programs**.

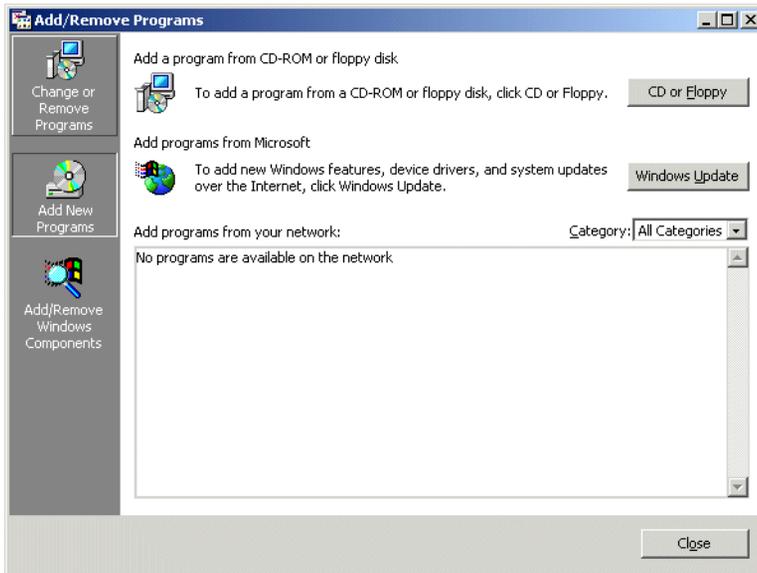
Result: The Add/Remove Programs window appears.



Note: If you double-click the setup.exe file on the Symposium Web Client CD, or if the setup file launches automatically, the Terminal Server Install Failure dialog box appears. This occurs because Terminal Services must be in Install Mode before you can install an application.



To switch Terminal Services to Install Mode and install the Windows 2000 support tools, select the Add/Remove Programs link in the dialog box. The Add/Remove Programs window appears, and Terminal Services automatically switches to Install Mode.



4 Click **Add New Programs**.

5 Click **CD or Floppy** to indicate that you want to install the Windows 2000 support tools from the CD-ROM.

Result: The Install Program From Floppy Disk or CD-ROM window appears.

6 Click **Next**.

Result: The Run Installation Program window appears.

7 Click **Browse**, and then navigate to D:\Support\Tools\setup.exe, where D: is the application server's CD-ROM drive.

8 Click **OK**.

Result: The Windows 2000 Support Tools Setup Wizard window appears.

9 Click **Next**.

Result: The User Information Window appears.

- 10 In the **Name** box and the **Organization** box, enter the appropriate information.
- 11 Click **Next**.
Result: The Select An Installation Type window appears.
- 12 Click **Typical**.
- 13 Click **Next**.
Result: The Begin Installation window appears.
- 14 Click **Next**.
Result: After the system copies files to the application server, the Completing the Windows 2000 Support Tools Setup Wizard window appears.
- 15 Click **Finish**.
Result: The After Installation window appears.
- 16 Click **Next**.
Result: The Finish Admin Install window appears.
- 17 Click **Finish**.

Did you configure a DNS server?

If you did not configure a DNS server during the Windows 2000 server installation, Symposium Web Client cannot find the Symposium Call Center Server systems. In this case, your next step is to manually update the HOSTS or LMHOSTS tables.

When you use server names to connect to an application server in TCP/IP networks, the server name must be associated with an IP address. LMHOSTS and HOSTS are host tables that carry out this association, which is called name resolution.

- The HOSTS table resolves host names to IP addresses on local DNSs.
- When WINS servers are used on a network, the LMHOSTS table resolves host names to IP addresses for subnets that do not have a WINS server.

Sample host tables are provided with the Windows 2000 Server installation in the following directory:

[x]:\WINNT\system32\drivers\etc

Use a text editor to modify the host table(s), and to enter the name and IP address of

- each Symposium Call Center Server
- each NCC Server

ATTENTION

You do not have to use host tables for name resolution if the names of the servers in Symposium Call Center Server and the NCC server names are registered on a DNS or WINS server.

Sample host tables are provided below as a guideline, but are not intended to indicate exactly how the host tables should be configured on the application server.

ATTENTION

Incorrectly modifying a host table on the application server can cause extensive network problems. Before you modify any of the host tables on the application server, you must carefully review the detailed information on HOSTS and LMHOSTS in the supporting documentation for Microsoft Windows 2000 Server.

Sample HOSTS table

The HOSTS table consists of a list of IP addresses followed by a computer name:

```
123.4.56.100 webclient.nortelnetworks.com
```

Separate the two values by using the space or tab key.

Note: HOSTS tables are case-sensitive.

Before you can use the HOSTS file for name resolution, you must adjust your operating system's settings. For more information, refer to "To activate HOSTS file name resolution" on page 295.

To activate HOSTS file name resolution

- 1 Click Start → Settings → Control Panel.
- 2 Double-click the **Network** icon.
- 3 Click **TCP/IP**, and then click **Properties**.
- 4 On the **DNS Configuration** tab, click **Enable DNS**.
- 5 Click **OK** to close the window.
- 6 Click **OK**.

Sample LMHOSTS table

LMHOSTS tables are more complex than HOSTS tables. Enter keywords and comments preceded with a # sign.

```
123.45.67.89 localsrv #PRE
123.45.67.90 ptord099 #PRE #DOM:networking #net group PDC
123.45.67.100 "webclient \0x14" #Nortel app server
123.45.67.101 home #PRE #source server

#BEGIN_ALTERNATE
#INCLUDE \\localsrv\public\lmhosts #adds LMHOSTS from this
server
#INCLUDE \\ptord099\public\lmhosts #adds LMHOSTS from this
server
#END_ALTERNATE
```

Note: LMHOSTS tables are not case-sensitive.

You must click the Import LMHOSTS option on the WINS Address tab in TCP/IP properties in the Network option to use the LMHOSTS file for name resolution.

Before you can use the LMHOSTS file for name resolution, you must adjust your operating system's settings. For more information, refer to "To activate LMHOSTS file name resolution" on page 296.

To activate LMHOSTS file name resolution

- 1 Click Start → Settings → Control Panel.
- 2 Double-click the **Network** icon.
- 3 Click **TCP/IP**, and then click **Properties**.
- 4 On the **WINS Address** tab, click **Import LMHOSTS**.
- 5 Click **OK** to close the window.
- 6 Click **OK**.

Appendix A

IP Multicast Networking

In this appendix

Overview	298
Multicast sending and receiving	299
Implementing IP multicasting for Symposium Web Client	309

Overview

Introduction

What is IP multicasting?

IP multicasting provides multipoint communication by simultaneously delivering information from one sender to multiple receivers who want to receive the information. The greatest advantage to IP multicasting is its ability to transmit information to many recipients in a way that minimizes the bandwidth required to communicate across networks, and the resources required by the sender to carry out a transmission.

Traditional multipoint communications

Traditional methods of multipoint communication require that a source send a copy of information to each recipient: ten recipients require ten copies of the data. This method, called point-to-point unicast, creates two constraints:

- The source's system resources are used up in the duplication and distribution of multiple copies of a single piece of information.
- The combined size of the copies of data sent to recipients cannot be greater than the share of bandwidth available to the source.

IP multicasting multipoint communications

Both point-to-point unicast and broadcast communications are server-based concepts that negatively impact the source system and its network.

With IP multicasting, communication is receiver-based. Users who want to receive data join a multicast host group and become members of that group. Since duplication and distribution of the information is handled by a router, the source computer's resources and its designated bandwidth are utilized efficiently, allowing the source to distribute information quickly and with minimal impact on the network.

Multicast sending and receiving

Introduction

To send to multiple users, IP multicasting communicates with multicast host groups that are comprised of multicast group members. Recipients must be members of multicast groups to receive multicast data. A sender, however, does not need to be a member in a multicast host group to transmit multicast data. Anyone who can send information to a multicast IP address can send multicast information to a multicast host group. The following sections look at the building blocks of multicast communication in greater detail.

How sending and receiving works

Multicast IP sending is the same as unicast sending: the sender indicates the IP address that it wants to send to, and the information travels through the network and arrives at its destination.

Receiving multicast IP datagrams is more complex. When an application on a PC indicates that it wants to receive multicast data, several things must occur in the background for the data to travel through the network(s) and be received by the application. The section below looks at sending and receiving within the framework of Symposium Web Client's Real-Time Reporting component.

Sending

Sending begins when a user opens a browser, connects to the Symposium Web Client application server, and opens Real-Time Reporting. Real-Time Reporting on the client issues a request to join a host member group associated with Real-Time Reporting multicast data. The request is sent to the host member group's multicast group host.

Note: When a multicast group host is part of a permanent group, the host filters continuously for data coming from the multicast IP address. If the host is dynamic, it only begins filtering for data when it receives a request for membership. See "Multicast host groups" on page 302 for more information on the types of multicast groups.

In IP multicasting, there is an All-Hosts Group with the reserved address 224.0.0.1, whose function is to represent all hosts on the network. The All Routers Group with the reserved multicast IP address 224.0.0.2 represents the communication point for all routers on the network. The All-Hosts Group continuously sends out requests to its hosts and asks for a report: “Are there any groups that contain members who want to receive multicast data?”

Since the concept of IP multicasting rests upon the idea of virtual networks, an All-Hosts Group should be viewed only as representing all of the host groups, not a physical piece of hardware. The address 224.0.0.1 can designate

- a router
- or
- a system with an IP multicast-capable network interface card

If you are using IP multicasting in a very simple network, one router on a LAN can represent

- the All-Hosts Group
- the All-Routers Group
- and
- the host that the host group members join to receive their multicast data

In this example, the network consists of two servers in Symposium Call Center Server on one LAN. The Symposium Web Client application server and its client PCs reside on a separate LAN. Each server in Symposium Call Center Server and the Symposium Web Client application server are connected to multicast routers.

In this scenario, one of the routers is designated as the All-Routers Group (224.0.0.2). The Symposium Web Client application server acts as the host to the host group members, while one of the Symposium Call Center Server routers acts as the All-Hosts Group (224.0.0.1). At this stage, the All-Hosts group waits to find out if there are hosts with members who want to receive multicast data.

The All-Hosts Group sends a query requesting that its hosts report on its membership, and the query travels from the All-Hosts Group to the host(s).

The host(s) report on their membership lists. These are all of the clients who requested membership in a host group by opening a browser, launching Web Client, and then opening Real-Time Reporting.

The report travels from each host back to the All-Hosts Group.

Receiving

At this stage, the scene has been set for multicast data to be received by the browsers that have Real-Time Reporting running. The hosts know who their members are. The All-Hosts Group knows who its hosts are. The routers that service the hosts are aware that their hosts are waiting for multicast data. Symposium Call Center Server now needs to provide that data.

Symposium Call Center Server delivers its real-time statistics data to its IP multicast-capable router on its LAN. The router puts together the data to be sent to the host groups, and maps the address of the multicast All-Hosts Group to the IP address that it uses to send data.

The data is sent from the LAN router to the All-Hosts Group. The All-Hosts Group then sends the data to the routers, whose job it is to receive data for hosts on their network or subnetwork. The routers for each host forward the data to their hosts, and each host forwards the data to its members.

Note: In traveling from the receiver to the sender, the request may travel through several routers. Only the routers nearest to the sender and receiver must be multicast-capable.

Multicast groups and members

Multicast hosts

Any system or router can be a host and can send multicast data to a multicast group if it meets the following conditions:

- The network interface card in the system is multicast-capable.
- The system or router is on a network with a local multicast router.

Note: The sender does not have to be a member of a multicast host group if it is only sending multicast data. Inclusion in a multicast host group is required only if receipt of multicast data is required.

Multicast host groups

Recipients of IP multicasting datagrams are called host groups. Host groups fall into the following two categories:

- permanent host groups
- transient host groups

Permanent host groups are groups with an assigned IP multicast group address. The number of members in the host group is irrelevant in that a permanent host group with no members still exists as long as its IP multicast address is defined.

A transient host group, by contrast, exists only if it has at least one member that requires its services. The multicast IP address for the transient host group is not permanently assigned to the host group; however, the addresses that can be dynamically assigned to a host group have two restrictions. The IP multicast address for a transient host group

- must be in the address range designated for IP multicasting
- cannot be the same as an address for a permanent host group

Multicast groups are virtual groups: they exist only from the point of view of multicast-capable routers or an All-Hosts Group. A host is simply a PC in a network that is designated to accept requests for multicast data from other PCs in the same network. This host conveys its membership status to its designated multicast-capable router. A group is formed when other PCs communicate their desire to join the host's group. The PCs that want to join the group can be from different networks or subnetworks. Their communication with the host makes them part of a single group.

The following groups are some of the permanent host groups that exist in an IP multicast-capable network:

- **The All-Hosts Group:** This group is used to identify all IP multicast hosts at your organization. When a host reports that it has members who want to receive multicast data, it sends this report to the All-Hosts Group. The multicast IP address for this group is 224.0.0.1.
- **The All-Routers Group:** This group is used to identify all IP multicast routers at your organization. The multicast IP address for this group is 224.0.0.2.

Multicast host group members

Host group members have few restrictions. They can

- reside anywhere on any network
- join or leave a host group at any time
- join more than one host group

To receive a multicast message

- the member must join the group to which the message is being sent and
- the group that the member has joined must belong to a network that is registered with a local multicast router

If the member joins a group that does not belong to a network registered with a local multicast router, the router receives the multicast message but has no way of distributing the message through the network to the member.

Multicast addresses

IP multicasting specifies multicast host groups using Class D Internet Protocol addresses. These host group addresses range from 224.0.0.0 through 239.255.255.255. While IP addresses identify a specific physical location, a multicast IP address identifies a transmission session — a request conveyed from a client to a host to join a multicast group.

However, when choosing IP multicast sending and receiving addresses, you must be aware of the following restrictions:

- The IP multicast addresses between 224.0.0.0 and 224.0.0.255 inclusive are reserved for routing protocols and topology discovery or maintenance protocols.
- Additional IP multicast addresses between 224.0.0.0 and 239.255.255.255 are also reserved for specific applications like Net News.

The IP multicast addresses that you select for IP multicasting groups at your organization *cannot* be within the 224.0.0.0 and 224.0.0.255 range. In addition, you must check to make sure that you do not select an IP multicast address that has already been reserved for a specific multicast application.

The following organizations maintain current information on IP multicasting addressing and can provide access to an extensive list of reserved IP multicast addresses. It is highly recommended that you review the information at one or both of these sites prior to assigning an IP address to a multicast group:

- Internet Engineering Task Force (<http://www.ietf.org>)
- Internet Assigned Numbers Authority (<http://www.iana.org>)

Multicast routing methods

The method that multicast routers use to interact with one another depends upon the routing protocol that has been set up for communications. All of these routing protocols use a routing method that moves a multicast packet from its source to its destination(s). There are several different routing methods:

- flooding
- spanning trees
- core-based trees
- reverse path broadcasting
- truncated reverse path broadcasting
- reverse path multicasting

A detailed description of each of these routing methods is beyond the scope of this document. The section below briefly discusses the spanning tree method, one of the more simple and efficient routing methods. To find out more about routing methods, visit the Internet Engineering Task Force (<http://www.ietf.org>), and Internet Assigned Numbers Authority (<http://www.iana.org>). Both sites provide additional information and articles that address IP multicast routing methods in greater detail.

Spanning trees

Multicast routing depends upon its multicast-capable routers to exchange information about neighbouring routers and efficiently route multicast traffic. The Internet Group Management Protocol (IGMP) selects one router as the primary router for each physical network in a LAN. This primary router creates a routing method called a spanning tree that connects all other routers that belong to an IP multicast group.

A spanning tree is a loop-free network of paths between routers. Only one path is established between each router. When each router is aware of the branches in the spanning tree, it copies multicast datagrams only to those branches of the tree. With this method, datagrams are duplicated only when the spanning tree branches, keeping the amount of duplication required on a network to a minimum.

Multicast protocols

There are a variety of protocols available for multicast routing. The protocol that your network operations department chooses for your routers depends upon the type of delivery service that you must provide.

If your network configuration does not require the delivery of multicast packets between routers or across networks, you only need the Internet Group Management Protocol. If your multicast data recipients extend beyond a single network, your network operations department must define multicast routing protocols for your routers. These protocols create the spanning trees and forward the multicast packets that are required to get the data to the group members.

The following list includes some of the most common multicast protocols and a brief description of the routing features that each provides.

Internet Group Management Protocol

When clients indicate that they want to join a group, and hosts indicate to routers that they have group members, Internet Group Management Protocol (IGMP) is the protocol used to convey this information between host group members, hosts, and routers. See “How sending and receiving works” on page 299 for more information on how group membership occurs. IGMP must be available on any interface running a multicast protocol, as well as on any static interface over which you want to transfer multicast traffic.

Distance Vector Multicast Routing Protocol

Routers that use Distance Vector Multicast Routing Protocol (DVMRP) advertise the shortest-path routes to the networks on which a multicasting source resides. DVMRP is the opposite of RIP, which advertises routes to destination networks.

Multicasting Extensions to Open Shortest Path First

Routers using Multicasting Extensions to Open Shortest Path First (MOSPF) utilize an enhanced version of Open Shortest Path First (OSPF). This protocol allows a router to forward multicast IP traffic within an autonomous OSPF (v.2) system.

Protocol Independent Multicast

Protocol Independent Multicast (PIM) provides efficient routes for multicast traffic that must cross the Internet to reach members of sparsely distributed multicast groups. The Nortel Networks implementation of PIM supports sparse mode. PIM communicates with far-flung members by

- inviting downstream members to join a shared tree by sending explicit join messages
- using rendezvous points (RPs) for receivers to meet new sources. Sources announce their existence to RPs; receivers query RPs to learn about multicast sessions.
- establishing a shortest-path tree to create a data path between sources and receivers

Resource Reservation Protocol

Resource Reservation Protocol (RSVP)-capable routers allow their host systems in an IP network to reserve resources for unicast or multicast dataflows.

Packet migration between multicast and non-multicast networks

With the variety of networks that exist and the data that must travel between them, it is too expensive and difficult (if not impossible) to set up network infrastructures that carry only multicast packets, while unicast networks carry only unicast data. The implementation of multicasting in your network does not preclude the transmission of unicast packets.

You can configure your routers to allow tunneling — unicast packets that travel as multicast packets, and multicast packets that travel as unicast packages between multicast and non-multicast networks. The table below provides an overview of how different packet types can travel between multicast and non-multicast networks:

Router receives	On interface type	Forwarding Action and How to Enable
Unicast or broadcast packet	Multicast	<p>The multicast protocol running on the interface forwards the packet to a multicast destination address (or list of multicast destination addresses) dictated by an IP traffic filter.</p> <p>The IP traffic filter must be configured to convert the unicast or broadcast packets to multicast.</p>
Multicast	Multicast	<p>The router's multicast protocol forwards the packet to</p> <ul style="list-style-type: none"> ■ a multicast configured outbound interface (based on multicast protocol decisions) or ■ a non-multicast, IGMP static configured outbound circuit <p>In Site Manager, you must set the IGMP static forwarding entries policy for Dynamic to Static forwarding mode.</p>

Router receives	On interface type	Forwarding Action and How to Enable
Multicast	Non-multicast, IGMP static configured	<p>The router forwards multicast packet traffic to a multicast enabled network if</p> <ul style="list-style-type: none"> ■ multicast protocols are running on the routers ■ the IGMP static forwarding policy is set to Static to Dynamic ■ the IGMP interface parameter Static Forward Cache Lifetime is set to a value in accordance with the multicast protocol (DVMRP or MOSPF) running on the router
Multicast	Non-multicast, IGMP static configured	<p>The router forwards the multicast traffic to a non-multicast, static configured interface if</p> <ul style="list-style-type: none"> ■ the IGMP static forwarding policy is set to Static mode

Implementing IP multicasting for Symposium Web Client

IP multicast requirements

The preceding sections discussed how multicasting works, the communication between software and hardware that multicasting generates, and the routing and related protocols that make the transmission of multicast data between sources and destinations possible. With this information, you can begin considering how to implement IP multicasting for your specific LAN or WAN, or both, to facilitate Symposium Web Client's real-time data multicasting requirements.

The following list is a checklist of the requirements that must apply to your network, network components, and multicast-capable applications for Symposium Web Client's multicasting capabilities to work in a simple LAN configuration:

Requirements for multicast communication on one LAN	
The sending and receiving nodes in your network must be multicast-enabled.	
The TCP/IP protocol stack must support IP multicast sending and receiving.	
The software used to communicate a request to join a multicast group must support the IGMP protocol.	
IGMP must be configured on all routers that receive or forward multicast or non-multicast datagrams.	
The network interface cards and their drivers at the sending and receiving nodes must be able to filter for LAN data link layer addresses that have been mapped from network layer IP multicast addresses.	
IP multicasting software must be installed on clients that need to receive multicast data.	

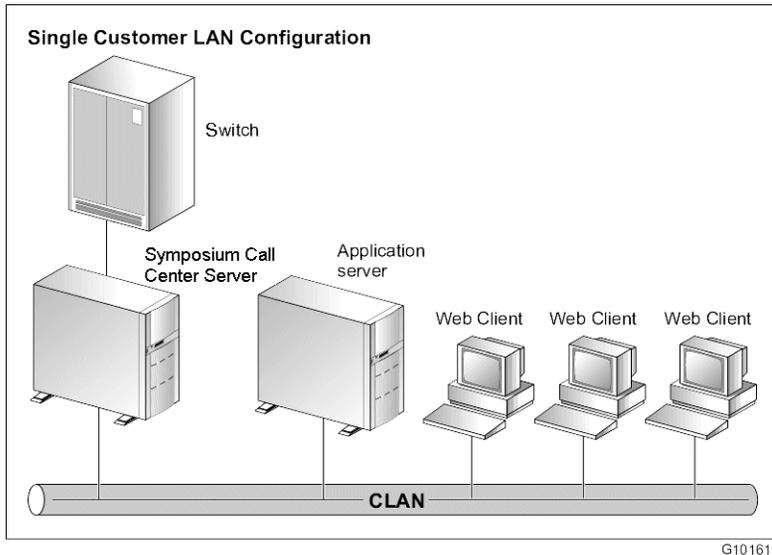
Routers are not required for a host to join a multicast group and share multicast data with other hosts on the same subnetwork. When multicast sending and receiving must travel between WANs and LANs, the list of requirements includes the above checklist in addition to the items below:

Requirements for multiple LANs or LAN-to-WAN multicast communication	
Intermediate routers between sending and receiving nodes must be IP multicast-capable.	
Firewalls between LANs and WANs must be configured to permit IP multicast traffic.	
An IP traffic filter must be able to convert packets from unicast to broadcast or broadcast to unicast.	
An IP traffic filter must be able to convert packets from unicast to multicast or multicast to unicast.	
Configure an IGMP static forwarding policy for interfaces that multicast and for interfaces that do not multicast.	
Set policy filters to identify multicast protocol-compliant gateways, interfaces, tunnels, and networks for IGMP, DVMRP, and MOSPF.	

Network deployment scenarios

Single LAN

In a single LAN environment, the clients, the application server, and Symposium Call Center Server share a LAN. With no firewalls to potentially block access, this is the simplest environment to configure for IP multicasting.



When Symposium Web Client is installed, its IP multicast send and receive addresses are identified on the application server. Symposium Web Client uses the receive address to collect multicast data from Symposium Call Center Server. The IP multicast receive address on Symposium Web Client must be the same as the IP multicast send address of the server in Symposium Call Center Server. However, the IP multicast receive address on Symposium Web Client must be different from the IP multicast send address on Symposium Web Client.

The send address on the application server is the point from which multicast data is sent to the clients. The multicast-enabled router acts as both the host and the All-Hosts Group to the clients who become host group members when they open a browser and launch Real-Time Reporting.

Appendix B

Web site types

In this appendix

Determining your web site type

314

Determining your web site type

Introduction

To determine which web site type is best for your organization when you install Symposium Web Client, evaluate how you intend to use the application server on which Symposium Web Client will reside.

Web sites and virtual directories

There are two ways in which you can install Symposium Web Client on the application server:

- as a stand-alone Symposium Web Client web site
- as a “sub-site” or virtual directory attached to an existing web site

Note: You must specify the type of web site that Symposium Web Client uses in step 13 of the Symposium Web Client installation process. For more information, see “To install Symposium Web Client on the application server” on page 94.

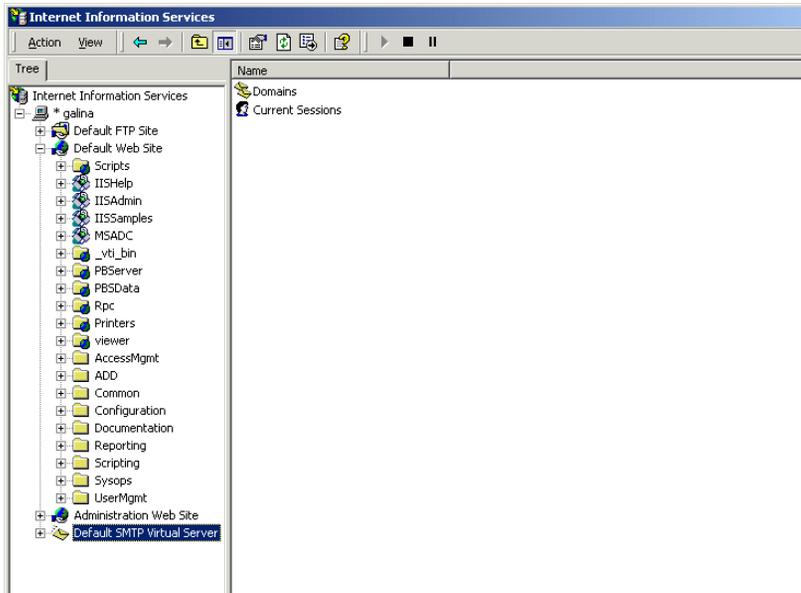
Regardless of the type of web site that you choose, the application behaves in the same way, and is visible to client PCs in the same way. The only significant difference between a virtual directory web site and a default web site is the way in which it appears in Windows 2000 Server.

Symposium Web Client as a stand-alone web site

If Symposium Web Client fits the following criteria, you should set up Web Client as the default web site:

- Symposium Web Client is the only application that will run on the application server.
- The existing company intranet or extranet is on another server, entirely separate from the domain being used for Web Client.

When Symposium Web Client is installed as a default web site, it appears as follows:

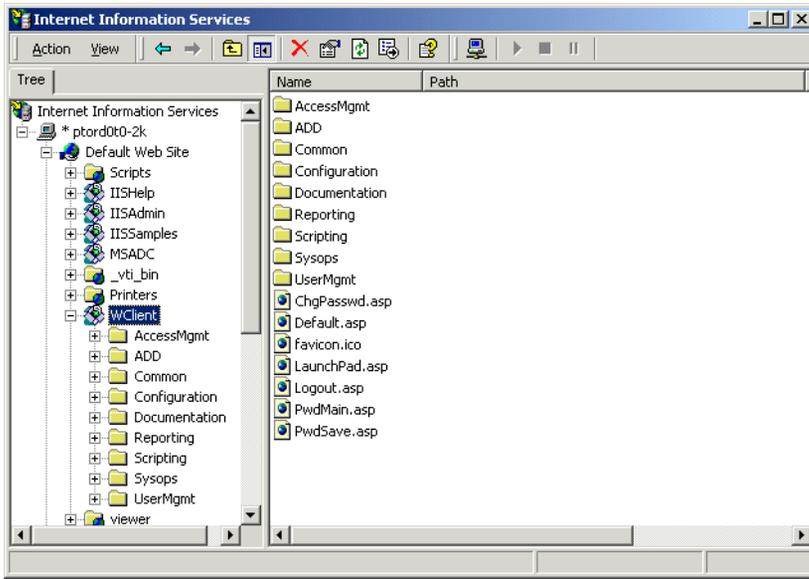


Symposium Web Client as a virtual directory

Set up Symposium Web Client as a virtual directory on an existing web site if Symposium Web Client fits the following criteria:

- You have a company intranet or extranet, or both, that already resides on the application server.
- You are installing Symposium Web Client as an additional web site on the application server.

When Symposium Web Client is installed as a virtual directory, it appears as a folder called WClient in the Default Web Site tree.



Glossary

A

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 may 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 may be given View Only access to historical reports.

ACD call

See Automatic call distribution call.

ACD-DN

See Automatic call distribution directory number.

ACD group

See Automatic call distribution group.

acquired resource

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

agent

A user who is responsible for handling customer calls.

agent logon ID

A unique identification number assigned to a particular agent. The agent uses this number when logging on. 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.

API

See application program interface.

application

1. A logical entity that represents a Symposium Web Client 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.

application server

The computer hosting the web server that distributes all the web pages to the client PCs that are using Symposium Web Client. The client PCs use an Internet browser interface to connect to the application server, launch Symposium Web Client, and interact with Symposium Call Center Server. The application software for Symposium Web Client is installed on the application server.

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 group

An entity defined on the switch for the purpose of call distribution. When a customer dials an ACD group, the call is routed to any agent who is a member of that group.

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 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 or Symposium Web Client 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.

CSE 1000

Succession Communication Server for Enterprise 1000 switch

Customer local area network

The LAN to which your corporate services and resources connect. The Symposium Web Client application server and client PC 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.

destination site

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

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.

DMS

Digital Multiplex Switch

DN

See directory number.

DN call

See directory number call.

DNIS

See Dialed Number Identification Service.

DNS

See Domain Name System.

domain

A domain represents the portion of a network on which a common security policy applies. A domain's security policy defines the characteristics of passwords, user accounts, and so on.

Domain Name System

The protocols and services on a TCP/IP network that allow network users to use the name of a computer, rather than an IP address, when looking for other computers.

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 server in 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 Web Client, 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**

1. In Real-Time Reporting, you create filters by specifying the skillset, application, and agent data that you want to see in the real-time displays. You can apply as many filters as you want to each display. After you apply these filters to the real-time displays, you no longer have to scan data that is not applicable to you. 2. In Historical Reporting, you can select the elements that you want to include in your reports by choosing filters and assigning filter elements to your reports. For example, in an agent performance report, you can choose the filter Agent Login ID, and then choose the filter elements (the logon IDs) that you want to report on.

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 (M1 switch only) that are configured on your system.

global variable

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

group

See report group and supervisor group.

ICM

See Intelligent Call Manager.

IIS

See Internet Information Services.

Intelligent Call Manager

A high-capacity call center TCP/IP interface to the switch that enables the exchange of messages between the switch and a remote host computer.

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 logon or logoff. An IVR event is pegged in the database when a call acquires or de-acquires a voice port.

Internet Information Services

Microsoft's Web server software. IIS uses Hypertext Transfer Protocol (HTTP) to provide World Wide Web documents in a browser. IIS includes several security functions and allows the use of Gopher and File Transfer Protocol (FTP) servers.

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 Network Skill-Based Routing, 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 to 255. For example, 1.160.10.240 can 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* 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.

Line of Business code

See activity code.

LOB code

See activity code.

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

M1 IE

Meridian 1 Internet Enabled switch

master script

The first script executed when a call arrives at Symposium Call Center Server. A default master script is provided with Symposium Web Client, 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.

MSL-100

Meridian Stored Logic 100 switch

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 Basic Input/Output System (NetBIOS)

The software interface between DOS, the I/O bus, and a LAN.

network call

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

Network Control Center

The server in 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 Web Client, 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).

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* 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**partition**

Partitions enable call center administrators to control the data that Symposium Web Client users can view and manage in Historical Reporting, Real-Time Reporting, and Contact Center Management. Partitions can contain six types of data: agents, skillsets, applications, CDNs, DNISs, and report groups. If an

administrator does not assign a partition to a user, then the user sees all available data in the real-time displays and historical reports. However, if the administrator does not assign a partition to a supervisor containing agents, then the supervisor sees nothing in Contact Center Management.

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 ACD-DN

A directory number that callers can dial to reach an ACD group.

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.

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.

report group

1. The *standard* report groups in Historical Reporting are folders that contain the standard report templates. There are six standard report groups: Agent Performance, Configuration, Call-by-Call, Networking (M1 networking only), Others, and NCC (on the NCC only). 2. An administrator creates *custom* report

groups in Access and Partition Management, adds them to partitions, and assigns the partitions to Historical Reporting users. Custom report groups do not contain standard report templates. Instead, they are folders that enable users who belong to the same group to share customized reports. Users can customize a standard template and save it in their group folder so that other members of their group can use the same customized report.

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 directory number

A DN defined on the agent's phoneset as a Centrex line for incoming and outgoing non-ACD calls.

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 server in Symposium Call Center Server is used to configure the operations of the call center. *See also* client, application server.

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 Mail Transfer Protocol

A TCP/IP protocol used to send messages from one computer to another on a network. This protocol is commonly used to determine the route for e-mail.

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* 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 may 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.

SMTP

See Simple Mail Transfer Protocol.

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 and has the primary responsibility for a group of agents. When an agent presses the Emergency key on the phoneset, the emergency call is presented to the agent's supervisor.

supervisor group

Groups created in Contact Center Management that enable you to manage the supervisors and agents on each server more effectively by placing supervisors who work in the same departments into the same groups. For example, you can place all supervisors who work in the sales department in the Sales Group, and all supervisors who work in the marketing department in the Marketing Group. This organization makes it easier for you to locate the supervisors and agents on the server tree when you manage agent to supervisor assignments and agent to skillset assignments.

supplementary ACD-DN

A DN associated with a primary DN. Any calls to the supplementary DN are automatically routed to the primary DN. A supplementary DN can be a toll-free (1-800) number.

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 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 Transmission 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.

Terminal services

An application that allows many computers to connect to a host computer, allowing input and output between the connected computer and its host.

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* 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* 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* out-of-service mode.

Transmission 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 Web Client system. Primary and secondary scripts are user-created scripts.

user-defined script

A script that is modified by an authorized user on the Symposium Web Client 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 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.

Index

A

- Access and Partition Management
 - access to 246
 - adding Web Client users in 245
 - and administrator privileges 246
 - overview 15, 182
 - partitions in 224
- access classes 224
 - access levels in 239
 - and Contact Center Management 239
 - and servers 239
 - creating 238
- access restrictions
 - in Symposium Web Client 99
- access rights 224
 - assigning basic 225, 245
- activating
 - modified multicast rates 58
 - modified RSM settings 60
 - the Terminal Services License Server 154
- activating or deactivating
 - real-time statistics collection 53
- Active Directory
 - and domain controllers 75, 76
 - and domain trees 77
 - and forests of domain trees 78
 - and Symposium Web Client uninstall 118
 - backing up 125
 - computer name 79
 - configuring the Terminal Services user
 - account in 148
 - database 81
 - domain name 79
 - installing 75
 - overview 75
 - permissions 83
 - problems with 290
 - reinstalling 119
 - restoring 127
 - server name in Symposium Web Client 100
 - uninstalling 119
 - verifying installation of 287
- Active X control
 - and Internet Explorer 168
 - and Terminal Services 169
- ad hoc agent to skillset assignments
 - creating in assignment mode 213
- ad hoc agent to supervisor assignments
 - creating in assignment mode 211
- addresses
 - Class D Internet Protocol 303
 - multicast 303
 - restriction for IP multicast 303
- administrator
 - and Windows 2000 Server 69
 - privileges 246
 - role of 183
- administrator access
 - defining typical 241
- Agent Desktop Displays
 - and RSM 52
 - and the refresh rate 158
 - configuring 157
 - configuring on the application server 132
 - configuring the maximum number of agents 158
 - configuring threshold colors for 158
 - dependency on Real-Time Reporting 102
 - installing and configuring on client PC 172
 - overview 17, 172, 183
 - server component 102
- agent to skillset assignments 208
 - creating ad hoc 213
- agent to supervisor assignments 208
 - creating ad hoc 211
- agents
 - adding in Contact Center Management 220
- All-Hosts Group 301, 302
 - and multicast data 300

All-Routers Group 302
 and multicast data 300
 application server
 administrator password 45
 and Symposium Web Client 17
 and third-party software 23
 communication ports on 32
 communication problems with 284
 computer name of 45, 79
 configuring 132
 configuring to support multiple languages 123
 hardware requirements for 23
 installation tasks on 41
 installing Sybase Open Client on 88
 minimum refresh rate on 29
 performance requirements for 27
 receiving IP multicast address on 133
 restarting after performing a platform migration 18
 sending IP multicast address on 133
 software requirements for 24
 troubleshooting 287
 uninstalling components from 116
 application threshold classes
 in Scripting 16
 assignment and detail mode
 effect of partitions on 253
 effect of supervisor/reporting agents feature on 253
 assignment mode
 in Contact Center Management 208
 associated supervisors 250
 associated supervisors and supervisors 238
 Audit Trail
 accessing 262
 and monitored resources 264
 overview 17, 183, 262

B

backing up
 Active Directory 125
 Symposium Web Client data files 126
 browser
 configuring on client 166

C

checklists
 installation 34, 41
 pre-installation 34, 35
 Windows 2000 Server installation 44
 Class D Internet Protocol addresses 303
 Client Access Licenses
 for Terminal Services 25
 for Windows 2000 Server 25
 Client Access Licensing 70
 client PC
 communication ports on 32
 hardware requirements for 26
 installation tasks on 43
 installing third-party software on 162
 software requirements for 26
 troubleshooting display problems on 282
 communication ports
 on the application server and client PC 32
 communication ports and partitions 30
 computer name
 Active Directory 79
 Configuration
 adding servers in 196
 configuring resources in 199
 downloading spreadsheets from 200
 overview 15, 182, 194
 spreadsheets 199
 tasks in 194
 using 205
 configuration utility 58
 configuring
 application server to support multiple languages 123
 Internet Explorer on client 166
 Real-Time Reporting 134
 the application server 132
 Contact Center Management
 adding agents in 220
 adding supervisors in 220
 adding users in 218
 and access classes 239
 and partitions 232
 assignment mode in 208
 detail mode in 208

- overview 14, 182, 208
- partitions and 236
- cookies
 - and Internet Explorer 168

D

- data
 - preserving during uninstall 118
 - protecting 32
- database
 - Active Directory 81
- default printer
 - setting up 142
- default values
 - clicking during RSM configuration 57
- default web site
 - installing Symposium Web Client as 93, 101
- detail mode
 - in Contact Center Management 208
- Digital Multiplex Switch 19
- directory path
 - changing for Agent Desktop Displays 175
- display problems
 - troubleshooting 282
- Distance Vector Multicast Routing Protocol 305
- DMS switch
 - real-time statistics groups for 54
- DNS
 - and Symposium Web Client 86
 - full name 79
- DNS server
 - addresses 47
 - and Symposium Call Center Server 35
 - configuring 71, 293
- domain controller
 - and Active Directory 75, 76
 - setting the application server as 24
- domain name
 - Active Directory 79, 100
- domain trees
 - creating new 77
- domains
 - Windows 2000 Server installation 48
- downloading

- data to Configuration spreadsheets 204
- DVMRP 305

E

- e-mail notification in Historical Reporting 139
- Emergency Help
 - configuring on the application server 132, 137
 - overview 17, 183
- exporting
 - files from Historical Reporting 145
 - scripts 155

F

- File Allocation Table (FAT) partitions 32
- forest of domain trees
 - creating new 78

G

- ghost images
 - using 129
- groups
 - supervisor in Contact Center Management 221

H

- hard disk space
 - confirming amount available 103, 177
 - requirements 103
- hardware requirements
 - for the application server 23
 - for the client PC 26
- high-level task flow 187
- Historical Reporting
 - and partitions 232, 235
 - configuring 139
 - configuring on the application server 132, 139
 - e-mail notification in 139
 - exporting files from 145
 - overview 16, 183

- historical reports
 - limit of simultaneous scheduled 29
- host tables
 - configuring 294
 - sample of LMHOSTS 295
- HOSTS file name resolution
 - activating 295
- HOSTS table 293
 - manually updating 71
 - sample 294

I

- iceadmin
 - and Symposium Web Client 69
- ICERTDTrace
 - using to trace IP multicast data 288
- IGMP 305
- IIS
 - installing 70
 - verifying installation of 287
- installation
 - checklist 41
 - failure 106
 - skills required 21
 - TCP/IP 47
 - Terminal Services 47
 - time requirements 21
 - Windows 2000 components 46
- installing
 - Active Directory 75
 - Agent Desktop Displays 172
 - IIS 70
 - new Symposium Web Client components 113
 - SMTP 70
 - Sybase Open Client 88
 - Terminal Services 70
 - Windows 2000 Server 68
 - Windows Socket 2 165
- installing Symposium Web Client
 - complete 102
 - custom setup 102
 - overview 66
- Internet Assigned Numbers Authority 304
- Internet Engineering Task Force 304
- Internet Explorer 162
 - and Active X controls 168
 - and cookies 168
 - configuring on client 166
 - font size in 283
 - security settings 168
 - selecting the language version in 108
 - troubleshooting 282
 - upgrading on the application server 108
- Internet Group Management Protocol 305
- Internet Information Services
 - installing 70
- interval-to-date 54
 - in Agent Desktop Displays 158
- IP address
 - for WINS 48
- IP addressing
 - dynamic 47
- IP multicast addresses
 - and mRcv.ini file 63
 - for sending on Symposium Call Center Server 56
 - receiving address on application server 133
 - reserved 56
 - restrictions 303
 - sending address on application server 133
- IP multicasting
 - address 52
 - implementing for Symposium Web Client 309
 - overview 298
 - requirements 309
 - typing settings for in pre-installation checklist 37
- IP port numbers
 - default 56
- IP Receive address
 - configuring on the application server 135
- IP Send address
 - and networked Symposium Call Center Servers 135
 - configuring on the application server 135

K

- key code

- for Symposium Web Client 97
- key codes 13
- and case sensitivity 97

L

- language version
 - selecting in Internet Explorer 108
- license server
 - activating for Terminal Services 154
- licensing
 - Terminal Services 147, 169
- LMHOSTS file name resolution
 - activating 296
- LMHOSTS table 293
 - manually updating 71
 - sample 295
- locales.dat file 123
- localization 123

M

- M1 Data Extraction Tool
 - overview 15
 - using to connect to the switch 26
- mail server
 - Smart Host name 140
- maximum agents
 - for Agent Desktop Displays 158
- MCast 62
 - section in the mRcv.ini file 63
- MDAC 162
 - and clients with Windows 2000 162
 - installing on client PCs 162, 164
 - verifying version of 162, 163
- Mdac25.exe 164
- Meridian 1
 - real-time statistics groups for 54
- Meridian 1 Data Extraction Tool
 - spreadsheets for 201
- Meridian 1 Internet Enabled switch 19
- Meridian Stored Logic 100 switch 19
- Microsoft's Compatibility List 23
- MOSPF protocol 306
- moving window 54

- in Agent Desktop Displays 158
- mRcv application
 - starting 64
- mRcv.exe utility 62
 - and the mRcv.ini file 63
- mRcv.ini file 62
 - modifying 62
 - port numbers in 62
 - sample 63
- Msado15.dll 163
- MSL-100 19
- multicast addresses 303
- multicast data
 - sending and receiving 299
- multicast group 299
- multicast group hosts 299
- multicast host group 302
 - members of 303
 - permanent 302
 - transient 302
- multicast hosts 301
- multicast protocols 305
- multicast rate 53, 57
 - activating modifications to 58
 - activating new settings 58
 - and RSM 52
 - current transmission rate 58
 - default values 58
 - modifying 55
- Multicast Receive utility 62
 - configuring 62
- multicast routers 300
- multicast routing methods 304
- MulticastCtrl.exe 53, 54
- multipoint communications
 - and IP multicasting 298
 - traditional 298

N

- name conflicts
 - while installing Active Directory 80
- NetBIOS domain
 - name of 80
- network architecture

- overview 19
- network architecture overview 19
- network components
 - of Symposium Web Client 17
- networking
 - setting up in Windows 2000 47
- NT File System (NTFS) partition 32
 - creating 68

O

- OAM Timeout 136
- OSPF protocol 306
- Output Rate 57, 135

P

- partitions
 - and Access and Partition Management 224
 - and Contact Center Management 232, 236, 253
 - and Historical Reporting 232, 235
 - and Real-Time Reporting 232, 235
 - and your call center 237
 - assigning to users 226, 233
 - compared to the supervisor/reporting agents feature 233
 - creating 231
 - creating NTFS 68
 - FAT 32
 - in assignment and detail mode 253
 - NTFS 32
 - on the application server 44
 - overview 237
 - properties of 231
- partitions and communication ports 30
- password
 - and Scripting 153
 - changing default when logging on to Symposium Web Client 190
 - for Directory Services on application server 84
- pcAnywhere 280
 - and remote support 43
- Performance Enhancement Packages (PEPs)

- downloading latest 43
- performance requirements
 - for the application server 27
- permissions
 - Active Directory 83
- PIM protocol 306
- platform migration
 - restarting the application server after 18
- port numbers 63
 - for real-time statistics multicast 52
 - in Symposium Web Client 32
 - in the mRcv.ini file 62
- pre-installation
 - worksheet 35
- printer
 - configuring for Scripting 155
 - setting up default 142
- Protocol Independent Multicast 306

R

- real-time displays
 - blank 290
- Real-Time Reporting
 - and IP multicast 299
 - and MDAC 162
 - and partitions 232, 235
 - and RSM 52
 - configuration overview 133
 - configuring 134
 - configuring on the application server 132
 - overview 16, 183
- real-time statistics collection
 - activating or deactivating 53
 - interval-to-date 54
 - moving window 54
- real-time statistics groups
 - for the DMS switch 54
 - for the Meridian 1 switch 54
- Real-time Statistics Multicast
 - configuring on Symposium Call Center Server 41
 - modifying settings 53
 - overview 52
 - testing the service 62

- receiving
 - multicast data 301
- refresh rate
 - for Agent Desktop Displays 158
 - minimum on application server 29
- Registry Values
 - clicking during RSM configuration 57
- remote support
 - from Nortel Networks 43
- report groups
 - creating custom 228
 - custom 228
 - standard 228
- requirements
 - for Symposium Call Center Server 27
- Resource Reservation Protocol 306
- resources
 - configuring in Configuration 199
- restoring
 - Active Directory 127
 - data 127
 - Symposium Web Client data files 128
- routers
 - multicast 300
- routing methods
 - multicast 304
 - spanning tree 304
- RSM
 - activating new multicast rate settings 58
 - configuring on Symposium Call Center Server 41
 - multicast rates 52
 - overview 52
 - port numbers 52
 - restoring original values after a change 57
- RSM configuration
 - and Symposium Call Center Server 53
 - default values 57
 - multicast rate 53
 - Registry Values 57
- RSM settings
 - activating modifications to 58, 60
 - modifying 55
- RSMConf.exe 53, 55
- RSVP protocol 306
- RTD Multicast Configuration Utility 53

- RTD Multicast Configuration window 55
- RTD Multicast Controller Utility 53

S

- Scripting
 - application threshold classes in 16
 - configuring on the application server 132, 146
 - configuring the default printer for 155
 - installing third-party components on a client 169
 - installing True DB Grid Pro 169
 - license requirements 147, 169
 - overview 16, 182
 - password for 153
- scripts
 - exporting 155
- SDP service 59, 60
 - stopping and starting 58
 - troubleshooting 59, 60
- Seagate Software
 - and hot fix for Symposium Web Client 74
- security
 - in Symposium Web Client 99
- sending
 - IP multicast data 299
- serial number
 - for Symposium Web Client 97
- servers
 - adding in Configuration 196
 - and access classes 239
- Service Updates
 - downloading latest 43
- setup
 - custom 102
 - order during installation 34
 - Terminal Services 47
 - Windows 2000 components 46
- shared folders
 - creating on the application server 49
- Simple Mail Transfer Protocol
 - installing 70
- Smart Host name 140
- SMTP 46
 - installing 70

- SMTP server
 - configuring 140
 - verifying it is installed 139
 - software requirements
 - for the application server 24
 - for the client PC 26
 - spanning tree routing method 304
 - spreadsheets
 - downloading data to 204
 - downloading from Configuration 200
 - for the Meridian 1 Data Extraction Tool 201
 - in Configuration 194, 199
 - overview 202
 - problems uploading data from 289
 - using for configuring resources 201
 - using to upload data to Symposium Call Center Server 202
 - stand-alone web site
 - and default web site 314
 - Statistical Data Propagator
 - stopping and starting 58
 - Succession Communication Server for Enterprise 1000 switch 19
 - supervisor access
 - defining typical 242
 - supervisor group folders 221
 - supervisor/reporting agents feature
 - about 247
 - and Contact Center Management 253
 - and Historical Reporting 252
 - and Real-Time Reporting 252
 - and Symposium Web Client components 252
 - assigning to Web Client users 249
 - compared to partitions 233
 - in assignment and detail mode 253
 - supervisors
 - adding in Contact Center Management 220
 - supervisors and associated supervisors 238, 250
 - switches
 - Digital Multiplex Switch 19
 - Meridian 1 Internet Enabled 19
 - MSL-100 19
 - Succession Communication Server for Enterprise 1000 19
 - supported by Symposium Web Client 19
 - Sybase Open Client
 - installing 88
 - Symposium Call Center Server
 - activating modified RSM settings on 60
 - and platform migrations 18
 - and Symposium Web Client 18
 - communication problems with 287
 - installation tasks on 41
 - requirements 27
 - RSM configuration on 53
 - Symposium Call Center Server users 15, 20, 247
 - managing 208
 - Symposium Web Client
 - about 14
 - access restrictions 99
 - and IP multicasting 309
 - backing up data files of 126
 - choosing web site types when installing 100
 - components of 14, 182
 - disk space requirements 103
 - installation overview 92
 - installing 94
 - logging on for first time 189
 - name of application server 79
 - network components of 17
 - optional components when installing 102
 - port numbers in 32
 - repairing if damaged 110
 - restoring data files of 128
 - switches supported by 19
 - uninstalling 117
 - system requirements 23
- ## T
- TCP/IP
 - setup 47
 - TCP/UDP port numbers
 - about 32
 - Terminal Services
 - activating the license server 154
 - Active X Control required on client PCs 162
 - and Scripting 147, 169
 - Client Access Licenses for 25
 - configuring the user account in Active Directory 148

- Install Mode 95, 292
 - installing 70
 - installing the Active X Control on client 170
 - licensing 147, 154, 169, 171
 - permissions 47
 - switching to Install Mode 89, 110, 113
- Terminal Services Client Access License 25
- Terminal Services License Server
 - and communication with Terminal Services 24
- Terminal Services Licensing 70
- testing
 - the RSM service 62
- third-party software
 - and Symposium Web Client installation failure 106
 - installing on client PCs 162
- threshold colors
 - for Agent Desktop Displays 158
- time to live 53
 - multicast value for your network 56
- Transform Rate 57, 135
- True DB Grid Pro 162
 - installing for Scripting 169
- TTL 53

U

- unicast sending
 - and IP multicast sending 299
- uninstalling
 - Active Directory 119
 - Symposium Web Client components 116
- UNIX server
 - setting up as a print server 144
- uploading data
 - problems with 289
 - using Configuration spreadsheets 202
- user name
 - modifying 246
- users
 - adding Symposium Call Center Server 218
 - adding Web Client 245
 - in Symposium Web Client 20
 - Symposium Call Center Server 15, 20, 247

- Web Client 15, 20, 247
- Windows 2000 20

V

- virtual directory
 - definition 314
 - installing Symposium Web Client as 101
 - setting Symposium Web Client up as 315
 - versus web site type 314
- virtual networks
 - and IP multicasting 300
- virus scan software
 - and Symposium Web Client 23

W

- Web Client user ID 220
- Web Client users 15, 20, 247
 - adding in Access and Partition Management 245
- web site types
 - definition 314
 - in Symposium Web Client 100
 - versus virtual directories 314
- web sites
 - for downloading Service Updates and Product Enhancement Packages 43
- webadmin 191, 246
 - and Configuration component 194
 - and Configuration spreadsheets 199
- Windows 2000 Server
 - Client Access Licenses for 25
 - installation checklist 44, 71
 - installing 68
 - installing and configuring 69
 - installing on the application server 41
 - networking 47
 - requirements 69
- Windows 2000 Server installation
 - and DNS server addresses 47
 - components 46
 - domains 48
 - IP addressing 47
- Windows 2000 Service Pack 1

- upgrading to 49
- Windows 2000 users 20
- Windows Socket 2 162
 - installing on Windows 95 client 165, 166
- WINS
 - IP address for 48
- Winsocket2.exe 166
- worksheet
 - pre-installation 35



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