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Symposium Call Center Server

Best Practices Workbook

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NORTEL NETWORKS™

Symposium Call Center Server

Best Practices Workbook

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Publication history

March 2003	Standard 2.0 release of the *Symposium Call Center Server Best Practices Workbook* is released.

Contents

How to use this workbook

Purpose

Nortel Networks Symposium Call Center Server is an evolutionary product designed to move customer care into the realm of Unified Networks. With a product philosophy and architecture that are distinct from the more traditional contact center offerings, Symposium Call Center Server must be treated as more than just a commodity product.

To provide the “best fit” solution for your customers, you must have detailed knowledge of your customers’ objectives, as well as knowledge of the Symposium Call Center Server product and its capabilities. You also need sufficient time and effort to design and engineer the solution, and to implement and activate an ongoing service plan for the solution.

Ultimately, success with Symposium Call Center Server involves a thorough needs analysis along with detailed upfront engineering, dedicated project management beginning as early as possible in the project cycle, a focus on change control practices, and certified professionals designing scripts, voice services, and reports. Planning, engineering, and managing the offered solution must begin before the sale occurs, and continue right through the implementation and service transition to ensure a satisfied customer.

To gear up to sell and support this product, you need technical readiness, as well as business and process preparation, from both a sales and service perspective.

Nortel Networks has developed this *Symposium Call Center Server Best Practices Workbook* to help you successfully add Symposium Call Center Server to your portfolio of product and service offerings, and to ensure customer satisfaction with every new installation.

Target audience

- *Account Specialists* – as a guide for assessing a customer's business needs and for understanding the crucial activities and considerations associated with selling and servicing Symposium Call Center Server
- *Field Specialists* – for planning purposes to assess the readiness to service Symposium Call Center Server
- *Design Specialists* – as a planning guide for implementing Symposium Call Center Server solutions
- *Others who work regularly with the product on a business level* – as an educational tool

Workbook structure

This workbook has been developed with the channel partner in mind. The structure of the workbook reflects the chronological flow of selling and servicing Symposium Call Center Server. It is divided into three main components: General information, Pre-sales activities, and Post-sales activities.

Designed as a reference resource, this workbook incorporates explanations of the product, services associated with the product, and checklists to be used as tools through all phases of your investigation, proposal, and implementation of a contact center solution. The workbook also contains references to other documents and Web sites that can assist your company in the sales and operational support of the total customer solution.

Nortel Networks recommends that you read the entire workbook at least once, and then refer to it as you plan new installations of Symposium Call Center Server. Many of the sections in this workbook also apply to Symposium Call Center Server upgrades.

Note: Some of the services and organizations mentioned in this guide are specific to regional markets. Contact your local Nortel Networks office for information about availability in your area.

General information

About Symposium Call Center Server

Symposium Call Center Server is Nortel Networks' next-generation contact center offering. It moves our channel partners and customers into the realm of unified voice and data networks while offering enhanced flexibility and all the functionality of a traditional contact center.

The following list describes the key attributes of Symposium Call Center Server:

- resides in a client/server architecture to distribute processing and protect call processing reliability
- contains a rich scripting language to allow flexibility in the way callers are treated and calls are routed
- employs advanced skill-based routing to enable individual call treatment and to connect customers with the agents most qualified to serve them, locally or across a network
- provides a browser-based management tool for supervisors and administrators that moves client software to a centralized server
- produces call event tracking and customized reporting to allow businesses to generate reports that are meaningful and useful
- provides voice service integration with Meridian Mail and CallPilot
- provides voice service interworking with Media Processing Server (MPS)
- provides an open system that allows access to four types of information: historical data, real-time data, host exchange data, and call control events and commands:

  Meridian Link Services (MLS) allows for third-party client applications to interface with Meridian 1 switches for telephony control/monitoring.

Symposium Event Interface (SEI) enables third-party client applications to receive “near real time” telephony call and Symposium Call Center Server resource information.

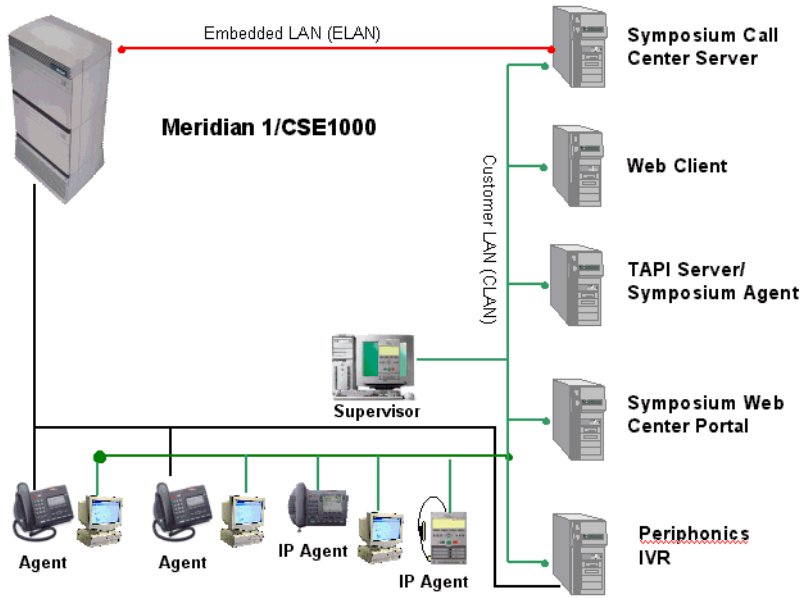
Host Data Exchange (HDX) allows a Symposium Call Center Server script to exchange data with, or provide data to, a third-party client application.

Real-Time Statistic Multicast (RSM) enables third-party client applications to access information about the state and performance of various Symposium Call Center Server resources, such as skillsets, agents, applications, IVR ACD DNs, and routes.

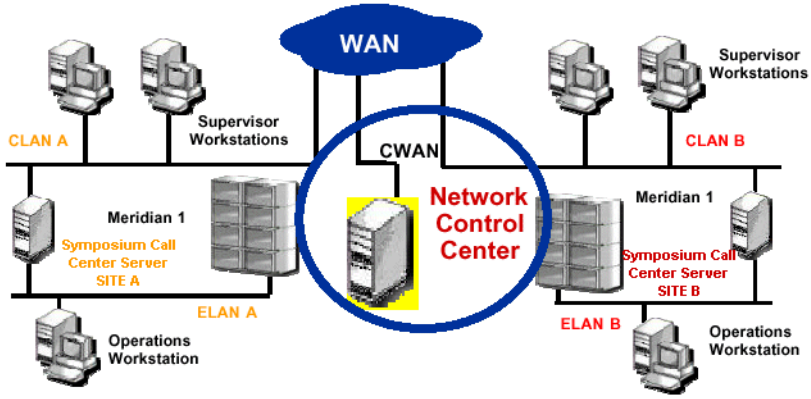
Architecture

Symposium Call Center Server consists of three key components – telephony, server, and client. The telephony component remains separate from the server, which preserves the reliability of the switch by ensuring that basic call processing continues if a fault occurs within the server.

Architecture diagram (nodal)



Architecture diagram (network)



Telephony

The telephony component includes the Meridian 1 or Succession Communication Server for Enterprise 1000 (CSE 1000) switch, its Voice Terminals, and auxiliary services such as messaging and Interactive Voice Response (IVR) for providing self-service transactions, playing messages, providing music while waiting, collecting digits, broadcasting messages, and so on.

Server

In a nodal environment, the server component comprises the contact center server and a dedicated, proprietary Ethernet embedded LAN (ELAN) used to communicate with the Meridian 1/CSE 1000 switch. The server, which runs Microsoft Windows 2000 software, is responsible for directory 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.

In a network environment, Symposium Call Center Server provides centralized management of network skillsets, routing tables, and consolidated call-by-call reports. The Network Control Center (NCC) manages the central administration of call processing, but does not directly connect to a Meridian1/CSE 1000 switch. The NCC resides on a dedicated server at any location in the contact center network, providing connectivity for up to 30 sites.

Client

The client component consists of the customer's LAN (CLAN) and supervisor workstations. Supervisor workstations connect to the CLAN, which is a TCP/IP Ethernet network, and reside on the desktop of the contact center manager or supervisors. The workstation employs a graphical user interface (GUI) based on Microsoft Windows software, and provides management capabilities, such as a point-and-click interface to manage agents and their assigned skillsets, as well as real-time contact center statistics and historical reports.

Symposium Call Center Web Client is a browser-based thin client, compatible with Symposium Call Center Server. The Web client uses Internet Explorer to connect to contact center management tools, historical reports, and real-time displays. With Symposium Call Center Web Client, the client software is moved to a dedicated application server and accessed through the browser for centralized installation, configuration, management, and administration.

Note: Certain administrative functions, such as backing up and restoring the server, using the Voice Prompt Editor, and viewing the Event Browser, are not available through Symposium Call Center Web Client; therefore, you must have at least one client PC installed with the Symposium Call Center Server client.

Skill-based routing

In traditional contact center products, contact center agents are assigned to agent groups. An incoming call is queued against a group so that it can be handled by the next available agent in the group. The objective of skill-based routing is to provide flexible call routing and treatment based on the requirements of the caller and the skills of the available agents, either locally or across a network.

Call routing is determined by a number of factors that help match callers' requirements with agents' skills. The following list gives examples of factors that may contribute to call routing:

- calling party information
- called party information
- date and time
- geographical information
- agent skills
- staffing levels
- wait times

- priority levels
- menu selections
- digits collected
- system information (traffic levels, agent status, caller input via voice session/IVR)
- information located in external databases (HDX)

Although skill-based routing has been discussed within the contact center industry for several years, most implementations still involve grouping contact center agents into agent groups.

Symposium Call Center Server has a true implementation of skill-based routing. Agents are assigned skillsets within their agent profile along with a priority level from 1–48 (plus one standby) for each skillset. The term *skillset* refers to a collection of abilities or the knowledge of something, such as a product or department, that may be required of an agent to process a call. Each agent can have up to 50 different assigned skillsets. The supervisor enables/disables each skillset on a dynamic basis. Skillsets can apply locally or across the network, allowing calls to be routed seamlessly to the most qualified agent—regardless of location. You can define a maximum of 350 skillsets for each Symposium Call Center Server system (up to 100 of which can be networking skillsets).

Incoming callers are queued against a skillset that contains all the agents skilled to handle these callers. Calls can also be queued to multiple skillsets or to specific agents, if desired. (See the Appendix for an in-depth description of skill-based routing.)

Scripting

Call scripts are tailor-made contact center applications that contain call routing and treatment instructions to define the handling of individual calls. You or your customer build the scripts using a combination of predefined, easy-to-understand commands, such as “Queue to Skillset” or “Give Music,” to create various call routing schemes and treatments unique to the requirements of the contact center. Call scripts, which can be as simple or as sophisticated as the application dictates, are not limited to a specific number of steps.

Call reporting

Flexible management reports provide contact center managers with the detailed, up-to-date information they require to effectively administer the contact center. These reports help identify immediate concerns and provide a historical perspective on contact center operations. Reports can focus on a selected time frame or on specific components, such as agents or skillsets, enabling management to measure and manage contact center productivity.

A set of standard reports helps managers analyze items such as skillset activity, agent performance, and the demographics of a specific customer area. Contact center administrators select the historical information they want to store in the database and use for future reporting. Standard reports include historical contact center performance information, configuration information on contact center resources and staff, and consolidated information on network statistics and performance of multiple Symposium Call Center Server locations.

Contact center managers can also create customized Symposium Call Center Server reports by purchasing a report writer that conforms to the industry standards of Open Database Connectivity (ODBC) and Standard Query Language (SQL). This gives contact center management the flexibility to create reports with information that is crucial to the success of their center and to concentrate only on the information that is a priority for them.

Open database

Symposium Call Center Server manages its historical data in a relational database. Open access to the database is available through the standard universal data access interface, ODBC, and a standard query language, SQL, that allows data to be extracted from database files. ODBC and SQL provide an interface that allows the customer to use any ODBC-enabled application to access the Symposium Call Center Server historical data stored in the database. This facilitates the blending of company databases to enhance business decision-making, and also protects an investment in industry standard report writers of existing contact centers planning an upgrade to Symposium Call Center Server.

Voice Services

Voice Services is an enhanced Symposium Call Center Server feature that provides callers with a higher level of influence over the routing and treatment of their calls than is available in traditional contact center offerings. The routing script uses information entered through touchtone commands to determine how

and where the call will be handled. For example, depending on contact center conditions, if a customer presses the key that indicates he or she wants to speak to someone about a particular product line, this information is used to determine which agent should respond, what priority the call should have, and so on.

Voice Services is an alternative to solutions that use IVR or computer-telephony integration (CTI) applications based on Meridian Link Services or Telephony Application Programming Interface (TAPI) Server functionality. Unlike the Meridian Link Services/CTI model, in which the host computer takes control of call routing and sends appropriate data to an agent's workstation, Voice Services maintains the ultimate control of call routing within Symposium Call Center Server. If a caller enters an account number, for example, Symposium Call Center Server Voice Services may use that information to solicit relevant data from a database. Employing caller-entered data enables Symposium Call Center Server to route calls more efficiently to the appropriate skillset.

Customer Contact and Self Service Solutions portfolio

Symposium Call Center Server is part of a larger portfolio of products that includes contact center, speech technology, and computer-telephony integration (CTI) solutions.

Symposium Web Center Portal

This Symposium software product provides automatic routing, response templates, and a range of management tools to handle multimedia contacts from customers with the same efficiency as telephone inquiries. In blending telephone, e-mail, and Web-initiated transactions, Symposium Web Center Portal provides a single point of contact.

For example, customers visiting a corporate Web site can fill in a predefined HTML form designed to capture customer information, such as e-mail address, telephone numbers, type of inquiry, and comments. The completed form is transferred from the Web site to Symposium Web Center Portal.

Symposium Web Center Portal routes each voice, e-mail, or Web inquiry to the contact center agent best qualified to respond, based on skillsets. The agent can respond by phone, e-mail, or text chat, depending on the customer's preference. The agent's workstation is automatically presented with a softphone interface that includes the customer's telephone number, or with an e-mail or text chat template that can be scripted to include the address, greeting, and closing.

Web communication features include

- text chat, page push, and form sharing for real-time Web collaboration
- Web-on-hold to stream media to the customer's browser while on hold
- immediate or scheduled agent call-back through Web-generated requests
- click stream tracking to record the customer's Web site "surfing" activity

In addition, Symposium Web Center Portal's real-time statistical displays and management reports provide a comprehensive overview of current and historical contact center and agent activity.

Symposium Agent Greeting

Symposium Agent Greeting automates the agent's greeting by enabling contact center agents to prerecord single or multiple greetings that can be played to callers before the agent handles the live call. Agent Greeting involves the use of the Voice Processing Series (VPS) platform on which the greeting recordings are stored and accessed every time the agent answers a call.

Ideal for medium- to high-volume contact centers, as well as service bureau environments, Agent Greeting gives agents extra time to transition between calls, and relieves them from the tedious task of repeating standard or unique greetings for each call received. Agent Greeting also avoids potential confusion from having to choose an appropriate greeting when fielding calls for different skillsets, languages, or customer types. When the recorded greeting finishes playing, the agent seamlessly enters into a live conversation with the customer.

Agent Greeting supports agent-specific and skillset-specific greetings and provides agents with the flexibility to easily record unique greetings using a simple telephone user interface. Agent Greeting also offers the following features:

- visual key flash and conferenced greeting
- Web-based interface for Agent Greeting card OA&M
- remote loadware/DSP firmware upgrade over IP network
- telephony-class high-reliability design
- support for 24 greeting ports per card; up to 72 ports total
- support for up to 2000 configured agents in a multi-card environment

Symposium Agent

This Windows-based product makes it possible to launch applications and access multiple databases from a contact center agent's workstation. You or your customer can customize Symposium Agent to retrieve caller information from both client/server and mainframe environments.

Data collected by an IVR system can also be routed to the agent's desktop. Implementation of Symposium Agent in conjunction with Symposium TAPI Service Provider, which is based on Microsoft's Telephony Application Programming Interface, facilitates integration with IVR systems and more advanced multimedia applications in the future.

Symposium Agent includes the following functionality:

- Automated data retrieval can be based on Dialed Number Identification Service (DNIS), Automatic Number Identification (ANI), or digits collected from an IVR system.
- Contact centers are provided with comprehensive softphone functionality in addition to screen-pop capabilities. Agents have on-screen control of telephony features such as
  - Answer
  - Hold
  - Release
  - Conference
  - Transfer
  - Speed dial

Symposium Agent also supports features specific to contact centers, such as Login, Logout, and Not Ready. Additionally, agents can view their personal call data (inbound/outbound totals, talk time, and so forth), access detailed call statistics, and configure customized dialing plans.

Symposium TAPI Service Provider

Symposium TAPI Server for Meridian 1/CSE 1000 is a full-function service provider for Microsoft's Telephony Applications Programming Interface (TAPI) Releases 2.x and later for Windows 2000. The combination is a powerful client-server telephony monitoring and control API for the Windows 2000 operating system.

Symposium TAPI Service Provider (SP) supports the following functionality:

- integrates user-provided data from Nortel Networks IVR systems with desktop-enabled TAPI applications, such as Symposium Agent and Symposium Web Center Portal
- enables integration of Meridian 1/CSE 1000 telephony capability with Windows-based business applications
- enables business application automation based on carrier call data or user-provided call data from IVR, or both
- allows multiple TAPI SP-enabled contact centers to share the call data generated during the caller's session
- provides the ability to select/deselect attached data for consultative calls
- provides a dynamic TAPI SP database

TAPI Service Provider is an ideal base for companies wanting to deploy wide-scale, sophisticated CTI integration solutions in Windows environments.

Symposium Communications Driver for Siebel

Symposium Communications Driver for Siebel integrates Nortel Networks customer contact and self-service solutions with Siebel eBusiness Applications. This solution enables organizations to provide best-in-class customer service, delivering current customer data to the most qualified agent, based on business rules and processes. The integration allows customer data maintained by the Siebel application to be presented to contact center agents through screen pops. Agents can immediately focus on their customers' needs, without having to ask customers for calling and called number information or customer data already collected through a self-service IVR application. The Siebel CTI toolbar allows agents to place, receive, and transfer calls while accessing customer records.

Nortel Networks self-service IVR/Speech Recognition applications enable customers to execute many transactions automatically. Callers' data collected during these transactions can be transferred to Siebel applications through the Symposium Communications Driver.

Symposium Call Center Server is responsible for call processing logic, call treatment, call handling, call presentation, and the accumulation of data into historical and real-time databases. Symposium Call Center Server interfaces with Symposium Communications Driver through Symposium TAPI Service Provider, which enables screen-based telephony and coordinates screen-pops of

customer data throughout the network. The Symposium Communications Driver coresides with the Siebel Communications Server on a Microsoft Windows 2000 server, and provides the messaging and call control interface to the Siebel Communications Server API.

Self-Service Solutions

Nortel Networks Self-Service Solutions provide comprehensive IVR functionality, including the following features:

- Callers can inquire about their accounts entirely using IVR "DTMF" commands that trigger data retrieval from a host computer. They only need to speak to an agent if they require more detailed follow-up.
- Advanced Speech Recognition makes it possible to replace touchtone commands with a single verbal response to an IVR prompt. Text-To-Speech translation can convert information from a database in digital format into speech.
- CTI applications can be enhanced to include data entered in IVR along with other database information. Screen-pops can show a customer's previous record along with the reason for the current call.
- The integration package for Meridian Link Services (Peri-IPML) can deliver DNIS, CLID, ANI, and other call information from the public network, as well as call-specific data from the Meridian 1/CSE 1000 switch, into the management of IVR calls.
- Peri-IPML features digital control for CTI-based call transfers, saving up to four seconds per call, and enables digital (CTI) login and logout of IVR ports, which is significantly faster than traditional DTMF login functionality.
- Web connectivity provides self-service access over the World Wide Web using the same application logic as that developed for the IVR application, so "callers" can execute any of the dial-in commands from their PCs and execute any of the dial-in-transactions they currently make via telephone.
- Web Callback prompts Web site visitors to enter their telephone numbers in a Web form if they want to speak with a company representative. Nortel Networks Self-Service Solutions then directs the request to the most appropriate contact center agent, who returns the customer's call.

Preparing your service business

As a next-generation contact center system, Symposium Call Center Server takes advantage of a LAN architecture and TCP/IP protocol to deliver an integrated solution via client/server distribution to customer PCs. Symposium Call Center Server requires you to take a fresh look at your service offerings because installing, implementing, mentoring/consulting, and ongoing service of this product will affect your costs, required skills, and capital assets.

The following sections provide a high-level overview of the roles played by Nortel Networks, the channel partner, and the customer in planning, coordinating, implementing, and supporting Symposium Call Center Server.

Nortel Networks role

To ensure effective execution of Symposium Call Center Server solutions, Nortel Networks must make sure that channel partners are fully capable of supporting the product. Through its Channel Readiness process, Nortel Networks marketing, sales, service, and engineering primes help channel partners prepare to sell, install, and support Symposium Call Center Server.

The Channel Readiness process ensures that full support is available throughout the product life cycle. This includes the ability to market, sell, engineer, order, install, monitor, maintain, repair, upgrade, and service the product. Readiness translates into the degree to which a channel partner is capable of performing all the functions necessary to support implementation in a customer environment. The process is ongoing and does not simply line up with the day-to-day selling, installing, and supporting that a channel does on a customer-by-customer basis.

Nortel Networks provides the channel partner with Channel Readiness templates for each of the following areas:

- Business Case
- Sales and Marketing
- Demo Sales Kit
- Accreditation and Certification (Training)
- Engineering
- Pricing and Packaging
- Order Management
- Repair and Return
- Installation and Maintenance
- Technical Support
- Value Added Services
- Lab Standards
- Product Documentation
- Beta Trial Report

Nortel Networks Customer Contact and Self Service Solutions - Professional Services Organization (PSO) offers additional support services (for a fee), if a channel partner requires further assistance with program management or project management for a Symposium Call Center Server implementation.

The following service packages are available:

Symposium Full Implementation Services Package	■ Migration Analysis ■ Symposium Call-Flow Design and Database Preparation ■ Symposium Skills-Based Networking ■ Symposium Database Entry ■ Symposium Script Design and Implementation ■ Symposium Supervisor Workshop ■ Symposium Cutover Support ■ Symposium Custom Reports ■ Postproduction Review
Symposium Basic Implementation Services Package	■ Orientation Kickoff ■ Design Checklist ■ Call-Flow Design ■ Data Entry ■ Design, Implement, and Test Scripts ■ Cutover Support

Channel partner's role

The channel partner coordinates the ordering, shipping, and delivery of equipment and materials to the installation site, and provides a project manager to manage the implementation of the proposed system.

The project manager serves as the single point of responsibility for project-related issues, such as channel/contractor resource utilization and scheduling, customer relationship issues, equipment and materials issues, training coordination, change orders, project-related correspondence, project acceptance documents, and project handoff documents to maintenance.

The project manager also

- holds an initial meeting with the customer to review the scope of work
- provides a project plan as agreed upon with the customer
- meets with the customer for periodic project status meetings

The channel partner completes database collection, programming, and documentation of the proposed system configuration as agreed to with the customer, and reviews and compiles customer-provided data.

Customer's role

During implementation, the customer provides a single point of responsibility for all customer-related issues, such as agency/department decisions and agreement to scheduling, change orders, project correspondence, training, acceptance, and placing the proposed system in service. In addition, the customer

- meets with the channel project manager to review the initial scope of work
- participates in jointly agreed to periodic project status meetings
- agrees to a jointly developed implementation schedule
- agrees to jointly develop a common understanding of channel conduct
- provides accurate, marked floor plans, database records, and cable records
- manages internal agency/departmental groups and decisions to meet project plan dates
- manages other vendors associated with the project who are not managed by the channel
- completes all requirements for proposed system connectivity to services not provided by the channel
- specifies a freeze date for changes to database information, and validates database information prior to the freeze date and programming
- provides timely acceptance of test results, system operation verification, and documentation
- reviews project financial data and billing
- agrees to be accessible during cutover for issue resolution

During the project, the customer also provides

- an appropriate system equipment environment that offers dedicated electrical facilities, a stable atmosphere, and a clean and well-ventilated room with adequate lighting and security
- a secure space for unpacking, staging, and storing equipment and materials
- removal of old systems and terminals
- parking facilities, access, and security passes to working areas
- space and furniture for equipment, reference materials, training, and a help desk
- a disposal site for cleanup debris

Required skills and knowledge

An important step in preparing your service business for Symposium Call Center Server is performing a "skills gap analysis" to identify the skills and training your technicians need to acquire. Additionally, you should consider how much contingency you may need, and whether you must cross-train your support staff to ensure you have trained backup technicians to handle the workload in the event of unforeseen circumstances.

Your company's Symposium Call Center Server introduction strategy plays a role in helping you determine what skills are needed, when they are needed, and what the ramp-up time will be.

Symposium Call Center Server training is available for key functional areas, including sales competency, sales engineering, installation and maintenance, technical support, and lab engineering. Training involves the formal development of specific, demonstrable skills and knowledge. Participants must meet specific prerequisites to be eligible for a given training course and are required to demonstrate functional mastery of the specified skills and knowledge covered in the course. Training is deployed through such vehicles as instructor-driven hands-on classes, on-the-job-training, and computer simulation training.

Training information is provided to you in three stages:

- Training Strategy – provides a preview of the kinds of training that will likely be needed to achieve staff readiness
- Training Requirements – provides a more detailed outline of the training requirements so that you can begin to assess the required skill levels of

personnel, and plan for the training of personnel to ensure at least minimum competency for the product/release

- Training Programs – provides the specific details of training, certification, and accreditation for each function that requires competency

For a list of training programs, required skills, and prerequisites, visit the Global Knowledge Web site at www.get.globalknowledge.com/norteltraining/, or contact a training consultant by calling 1-866-456-2085.

For information about training in Asia Pacific, contact Nortel Networks Enterprise Voice, Singapore Training Center at 65 6380 8715 or 65 6380 8092. Course schedules and training-related information can be found at http://www.nortelnetworks.com/td.

Accreditation and certification

Successful installation and maintenance of Symposium Call Center Server requires you to effectively manage all your resources, including your technical personnel. Adequately trained and experienced sales, sales engineering, installation, and field service engineers are key to your success with Symposium Call Center Server.

Accreditation is the process by which you can establish your fitness to support Symposium Call Center Server. This fitness may involve capability and capacity of personnel as well as equipment and facilities.

The Nortel Networks accreditation program provides a set of training tracks for your sales and engineering teams. Accreditation is earned by meeting the training/testing objectives and certifications set forth for various types of individuals in your organization, and by meeting other requirements described in the program. The program outlines requirements for training, service, and lab requirements that must be met to successfully sell and service Symposium Call Center Server.

The Nortel Networks accreditation Web site (https://app12.nortelnetworks.com/cgi-bin/partnerPage.cgi?curOid=12460&filename=/programs/accred/index.html) provides details and links to information about training courses and supplemental documentation. This site is updated regularly, so occasional reviews of the site are recommended. Updates on product accreditation programs are also provided in the Nortel Networks Partner NewsFlash.

There are many Global Knowledge programs available through which your sales and engineering teams can be trained on Symposium Call Center Server. Once trained, your personnel can challenge certification exams to obtain recognition of their expertise. You can visit the Web site at http://www.nortelnetworks.com/servsup/certification/gcp_about_cert.html for further information about the Nortel Networks certification program.

For information about accreditation and certification in Asia Pacific, contact Nortel Networks Enterprise Voice, Singapore Training Center at 65 6380 8715 or 65 6380 8092 or visit http://www.nortelnetworks.com/td.

Support

Nortel Networks provides support for Symposium Call Center Server in a variety of ways—from CD-ROM media and online guides to recommended preventive maintenance tasks and established Nortel Networks support/recovery processes.

Remote access capabilities allow support personnel to use a LAN connection or modem to access the Symposium Call Center Server platform. Remote access capabilities can be used by

- your technicians to install and configure the Symposium Call Center Server system
- your customer to administer the system using the Operations Administration & Maintenance (OA&M) client (sometimes referred to as the System Management Interface or SMI)
- a customer support person to verify network configuration using Windows support tools
- your technicians, Nortel Networks Global Network Technical Support (GNTS), or product support organizations to diagnose and fix problems

Additionally, pcAnywhere provides remote control of the Symposium Call Center Server platform and the ability to perform a number of activities such as transferring files, recording sessions, and scripting. By default, Symposium Call Center Server is configured to blank the local console when someone is using pcAnywhere. Refer to the *Symposium Call Center Server Installation and Maintenance Guide* for details on how to verify the pcAnywhere configuration. Reference the *Support Tools Guide* for more detailed information.

The Nortel Networks support/recovery channel is GNTS. Additionally, Nortel Networks can provide referrals for fee-based services, such as Installation and Maintenance, offered through the Nortel Networks Advanced Deployment organization for U.S. customers only.

Online Help gives you and your customers access to information for administration and maintenance purposes. Reference guides provide more detail for power administrators and troubleshooters. Customer documentation provides information about installation and basic administration when the system is not online.

PEPs and patches

Product Enhancement Packages (PEPs) are small software updates that are installed on the server or client for Symposium Call Center Server. PEPs contain product enhancements and bug fixes, and may be required to ensure smooth operation of your system.

There are two types of server PEPs—Install-time PEPS and General PEPs:

- Install-time PEPs must be installed after the product software is installed but before the product database is installed.
- General PEPs must be installed after the server software and database have been installed and configured.

Install-time PEPs update the server software to take care of any known issues with the installation or configuration before you continue with the conversion.

Note: The latest Install-time PEP is critical for a conversion from Release 1.5 to Release 4.2; this PEP updates the configuration utility to allow the conversion to proceed. The latest Install-time PEP is available on the Supplementary CD-ROM and from the Meridian PEP Library Web site.

You can distinguish Install-time PEPs from General PEPs by the PEP ID:

- For Install-time PEPs, the ninth character is a U (for example, NI040206U007S).
- For General PEPs, the ninth character is a G (for example, NS040206G004S).

Periodically, individual PEPs are consolidated into Service Update packs or "super PEPs." You install Service Update packs in the same way as PEPs, although they can take longer to download because they are larger. There are normally two Service Update packs: one for the client and one for the server.

When you install the software (or convert to a new version), you should install the latest Service Update pack on the Server and Client.

Channel partner access

All Service Update packs and PEPs are available on the Meridian PEP Library (MPL), located at https://www43.nortelnetworks.com/MPL (North America and Asia Pacific), or https://www21.nortelnetworks.com/MPL (Europe), accessible only to authorized channel partners. You can follow the instructions at http://nortelnetworks.com/register to register for this Web site.

Any Service Updates and PEPs that are available at the time of shipping are included on the Symposium Call Center Server Supplementary CD shipped with your software.

The *General Release Bulletin* (GRB) contains the latest PEP application procedures. PEP insertion is the channel partner's responsibility. However, GNTS still advises whether— and when—PEPs should be applied to correct specific problems. A system restart is required at the end of the PEP installation.

The Nortel Networks Advanced Deployment group (available in the United States only) supports the complete contact center portfolio, including Symposium Call Center Server, and can serve as a single point of contact to provide a solution to a large or geographically diverse company. You can obtain information and pricing for services offered by the Nortel Networks Advanced Deployment organization by faxing a pricing request to 952-838-3633, or by calling 952-897-7424.

Your technicians must know how to establish remote access sessions, and how to use pcAnywhere software to provide remote support and to access support tools. They must also acquire the skillsets required to troubleshoot problems that may occur on the server, the network, or the client PC and application, as well as the skills needed to install, upgrade, and maintain Symposium Call Center Server hardware and software.

Visit the Global Knowledge Web site at www.get.globalknowledge.com/norteltraining/ for a summary of the skills needed and a list of available training courses. In Asia Pacific visit http://www.nortelnetworks.com/td.

Understanding the product deployment process

Satisfied customers do not just happen—they are the result of implementing the right product solution, using the right process. Following a series of well-defined process steps helps ensure that the project flows smoothly and influences customers' perception of your company's competence and ability to meet their specific business needs long after you complete the installation and implementation. These steps are discussed in greater detail in the following chapters.

Successful channels use their Nortel Networks certified design specialists and technical support specialists to handle deployment of contact center and self-service solutions. If your company lacks specific certification skills or resources, you can contract some of the steps in this process with the Nortel Networks Contact Center and Self Service Solutions - Professional Services Organization (PSO) group. For more information about available PSO services in North America, send an e-mail request to rpqadm@nortelnetworks.com, or call 1-800-4Nortel and use Express Routing Code (ERC) 1146. In Asia Pacific, contact your local channel account manager for services available in your region.

It is important that your company remain engaged with your customer for the project when contracting to PSO to ensure that all parties clearly understand their defined roles and responsibilities. The final relationship with the customer is a part of your value-add for ongoing contact center evolution for your customer.

The process steps

Choosing the right solution

Today's customers buy a business solution—not an individual product—to achieve unique business goals and corporate objectives. After performing a detailed analysis or Business Needs Assessment of the results the customer seeks to achieve by implementing this solution, your company's sales professionals should recommend a solution that best meets the customer's needs.

Customer orientation/training is critical in implementing a new contact center system, and can mean the difference between success and disaster in terms of customer satisfaction. Therefore, your company should engage its customers in product training at the Business Needs Assessment stage, if possible, and work with them as partners through the process of choosing and deploying a solution.

Moving through the proposal stage

Development of the proposal involves a series of steps that includes developing the Functional Design, Scope of Work, and Project Plan, assigning responsibility for engineering the final solution, performing a risk assessment, and determining the sales quote. Engage the appropriate resources of your company's organization during proposal development to reduce your exposure to risk, and ensure that your proposal is as accurate and thorough as possible.

Creating the Functional Design

Since this step is one of the most important phases of the project, it should be completed by Nortel Networks contact center certified sales engineers or technical staff in your company who will take responsibility for the success of the design. Functional Design involves

- gathering the bulk of the information related to the implementation and operation of the existing contact center, where applicable
- exploring implementation possibilities for the new contact center (for example, the multimedia contact requirements of the customer)
- setting customer expectations early in the process by providing a conceptual view of the new contact center's operation, including diagrams outlining the transaction flow

Transaction flows detail how customer contacts are treated as they enter the contact center, and depend on the characteristics or customer information provided with the transaction. These transaction flows provide the blueprints for the system's operation and required components. The efforts within this step help to ensure that the design of the contact center functionality is as robust as possible, and enable the selection of optimum engineering parameters. Transaction flow diagrams provide a reference when configuring the system and designing/modifying the scripts. It is important to define and maintain accurate transaction flow diagrams as the customer's requirements evolve, and incorporate them into the maintenance processes.

The Functional Design should include any third-party integration components (for example, Workforce Management, Recording, Reader Boards, or Pre-call Routing). Nortel Networks Partner Information Center (PIC) provides a link to third-party and partner products that have completed compatibility testing with the Symposium product suite (http://www.nortelnetworks.com/prd/dpp/product/index.html). For customers that request reuse of existing third-party products, where possible, this resource provides you with information on compatibility that can readily be conveyed to the customer during the design stage. The Functional Design can also highlight the requirements framework for potential impacts to any third-party vendors when updates and enhancements are required as the contact center evolves.

By having your customer review and sign off on the Functional Design as part of the design, you ensure that there are no misunderstandings in how the contact center will operate once it is established. Sign-off on the complete proposal, including the Scope of Work and Project Plan, helps minimize or eliminate misunderstandings about what will be delivered and who will be responsible for the initial installation and ongoing support.

Engineering the solution

At this stage, your company has enough information to choose the final engineering configuration of the solution, and determine the hardware and software and professional services required to successfully implement the project.

Defining the Project Plan and scope of the work

The key to each project's success is the creation of a formal implementation Project Plan with a project manager, and defined project roles, activities, and assigned responsibilities. (See the Critical Proposal and Ongoing Support Checklist in the Appendix for examples of important issues to consider to avoid confusion by end users, third-party vendors, and your company.) Meetings and plans must be formal in nature. Additionally, participants should develop detailed plans that include an understanding of how each activity interconnects to others.

Submitting the final proposal

Your company must combine all the information gathered during the previous stages with a risk assessment and a sales quote to form the final proposal to be presented to the customer. After accepting the proposal, the customer must sign off on the quote, as well as the Functional Design, system configuration, and statement or Scope of Work. This sign-off ensures that there are no misunderstandings about what is to be delivered and who will be responsible for the initial installation and ongoing support.

Placing the order

Provided that all the necessary information gathering and analysis have taken place during the Business Needs Assessment, Functional Design, and Solution Engineering stages, this step should be relatively straightforward.

Evaluating site readiness

Prior to installing the solution, you must evaluate all aspects of the project and the site to determine whether you can proceed with installation. The checklist that appears later in this workbook can help you with your evaluation.

Installing hardware/software

This stage of the project requires certified, product-knowledgeable technical staff. Information provided later in this workbook can help ensure that you address all aspects of the installation.

Preparing the database

Without an accurate database, the contact center will not operate according to the customer's specifications. Moreover, it puts the achievement of the customer's business goals at risk. A checklist later in this workbook deals with the proper order for programming the Symposium Call Center Server data.

Designing and implementing scripts

Implementation of the customer's desired call treatments and call routing requires the development of customized scripts based on the transaction flow diagrams defined in the Functional Design stage. This chapter describes a high-level process for writing scripts, and offers some tips for designing and writing robust scripts.

Defining management reports

Symposium Call Center Server comes with a number of standard reports designed to satisfy most requirements. You can generate these reports as required or use them as templates to create user-defined reports. It is very important for sales professionals, as well as technical staff, to understand both the standard and custom-generated reporting capabilities.

Managing change control

Change control management is a vital part of any IS server-based operation. Symposium Call Center Server contact centers that adhere to these processes are inherently more successful and easier to maintain than those that do not. This workbook describes the areas in the contact center that should have change control management procedures, and provides some considerations about setting up the procedures.

Handing off to the customer

After completing an installation and assuring its stability, you must validate and gain acceptance of your company's commitment to the proposal and what you delivered to the customer.

Assuring ongoing maintenance and support

A plan for ongoing maintenance and support must be part of your overall project plan. Reference the Critical Proposal and Ongoing Support Checklist in the Appendix for examples of vital issues to consider.

Pre-sales activities

Choosing the right solution

Symposium Call Center Server is a complex, customizable solution capable of an infinite array of functionality and configurations, depending on the customer's preference. Sales people, service staff, and customers must understand this, because up-front analysis and engineering during the pre-sales stage are critical to the success of a project involving Symposium Call Center Server.

Your company must invest the necessary time and effort during pre-sales activities to ensure an understanding of the customer's needs and to offer the solution with the best fit. The first step is to have experienced, product-knowledgeable personnel perform a Business Needs Assessment that examines the customer's requirements in detail. This assessment must be completed for both prospective and existing customers, whether they want to install a new contact center or upgrade an existing one.

Thoroughly understanding the customer's needs and doing the detailed planning at the beginning of the process alleviates any misunderstandings, costly reworks, unexpected problems, or missed commitments that otherwise lead to a poor experience in the customer's eyes.

Customer training

Engagement of customers in product training at this early stage, if possible, helps them more accurately identify their own needs and wants. It also enables them to partner with you throughout the process of choosing and deploying a solution. Partnering adds value because customers can provide insight into their own business and identify issues and challenges that may not be visible to others outside their organization.

The assessment

The assessment involves performing an analysis of the results the customer is seeking to achieve unique business goals and corporate objectives. Your company's trained, certified, design professionals perform the assessment by examining factors such as

- the customer's business objectives
- the contact center's size and future growth potential
- existing equipment and applications, if any
- desired transaction flow
- routing
- call treatments
- desired report content
- future requirements
- expertise level of support and maintenance personnel

All these factors must be analyzed before your company can recommend a solution that best meets the customer's needs, and before you can prepare a preliminary engineering analysis of the system's configuration. You have an opportunity to refine the engineering analysis during the Functional Design and Final Engineering stages before you present it to the customer as a proposed solution. You must also verify it during the Script Design and Implementation stages to ensure that the project has been accurately scoped, and that you have identified any required changes/deviations in the configuration as early as possible.

Every customer has different needs and different operating environments. Although every business assessment is different, there are a number of key areas that you must always probe to perform an accurate Business Needs Assessment. You should review each area to ensure that you understand its impact on the solution.

A checklist, broken into the key areas, appears at the end of this chapter. Use it as a baseline to start performing a Business Needs Assessment for your customers. The checklist identifies key areas and important questions that you must answer before you determine the optimum solution for each customer.

In a Request for Proposal (RFP) or Request for Quote (RFQ) scenario, customers may not favor such a detailed investigation; however, the investigation is imperative due to the complexity of this type of solution. If your company skips steps, you may get the sale, but it can be catastrophic in the future.

Once you have the necessary information, you can compare your customer's needs and requirements to the functionality and capability offered by the various Nortel Networks contact center products and select the best fit. You can contract with Nortel Networks Customer Contact and Self Service Solutions - Professional Services Organization (PSO) to handle this step in the process. Call 1-800-4Nortel (Express Routing Code 1146), or send an e-mail inquiry to rpqadm@nortelnetworks.com for more information. In Asia Pacific, contact your local channel account manager for services available in your region.

Meeting the customer's requirements

To choose the best solution set of products, you must understand the customer's business objectives in making the decision to go with a contact center solution. While assessing the customer's needs, it is important to take into consideration the customer's short-term and long-term goals. The product suite you recommended should meet or exceed short-term objectives while positioning the customer for growth in both size and complexity.

It is important to discuss your customer's business objectives at the corporate, divisional, and local contact center levels. Having this discussion up front ensures that you have a good understanding of your customer's vision. This allows for a comprehensive product offering with the features and functionality required to carry out that vision.

Sizing the project

The size of the contact center, its complexity, call volume, and planned development and growth have a major impact on the solution set you select for your customer. It is important to use the Business Needs Analysis and Call Center checklists at the end of this chapter to assist you with sizing the project and determining its complexity. The Symposium Call Center Server Capacity Tool (CapTool) helps you determine the size and power of the server required for the customer's applications, as well as the bandwidth required for the

customer LAN traffic associated with the contact center's administrative tools. Identification of requirements, such as CTI (screen pops), IVR self-service applications, and Web/e-mail integration is also critical in providing sizing and solutions engineering.

Existing functionality

If a customer is upgrading from an existing contact center, it is crucial to understand what the customer expects from the new system compared to the current operation and available functionality. It is also important to understand requirements related to investment protection and reuse of existing applications and equipment. This will help you establish priorities when you choose a solution and ensure that customer expectations, in terms of functionality and investment protection, of the proffered solution are realistic. The checklist at the end of this chapter is helpful in determining a customer's existing functionality, especially with regard to routing and reporting.

Realistic customer expectations make it easier for you to deliver what is expected, and also contribute to customer satisfaction with your company and the product once the system is installed and operational. If you make assumptions or bypass this step, you risk misaligned or unrealistic customer expectations.

Installation, maintenance, and ongoing support

The Symposium suite of products represents the convergence of classic telephony-based solutions with data applications that reside on the client's data network, both LAN and WAN. Today's sophisticated channel partners know to work closely with a customer's IT department, as well as the traditional telecom department to implement and support advanced applications that reside on the IT department's network and desktops.

Trained resources with the appropriate skills to do the installation, maintenance, and ongoing support definitely impact the success of the project.

An important business consideration for the channel partner is not only the initial system design and implementation, but also the ongoing support of the proposed solution post-installation. The best recommendation is to be realistic about your organization's capabilities and price in "up front" any resources required outside your company to ensure the project's success.

An equally important consideration is to establish and communicate the roles and responsibilities of each organization involved in the project. Ensure that all project activities are clearly defined to prevent any functional inadequacies or unclear scope and deliverables. Nortel Networks offers a comprehensive suite of professional services to complete or assist with any or all of the functions presented in this workbook. Contact Nortel Networks Contact Center and Self Service Solutions - Professional Services Organization (PSO) group at 1-800-4Nortel (Express Routing Code 1146) for more information and price quotes on the services offered. In Asia Pacific, contact your local channel account manager for information about available services in your region.

Reference material

The following Nortel Networks reference material is useful in performing the Business Needs Assessment and designing a solution to offer your customer:

- *Product Catalog*
- NTPs for contact center products
- *Symposium Business Planning Guide*
- Symposium Call Center Server Capacity Tool
- bulletins relating to contact center products:

  General Release Bulletins

  Technical References

  Sales and Marketing Bulletins

  Product Bulletins
- product sales training material relating to contact center products
- Knowledge Transfer Kits
- information related to Nortel Networks Customer Contact and Self Service Solutions - Professional Services Organization
- information related to Advanced Deployment in the United States
- *Global Knowledge Nortel Networks Technical Training Catalog*
- *Computer-Telephony Skills Training Workbook*

Reference the Nortel Networks Web site (www.nortelnetworks.com) for a complete list of downloadable documentation, or contact Nortel Networks at 1-800-4Nortel. Another good source of information is the Nortel Networks Partner Information Center (PIC). The PIC Web site (http://www.nortelnetworks.com/prd/picinfo/) is password protected; however, you can submit a request for a password on the Web site's home page.

The solution of choice

After completing the initial Business Needs Assessment, if all indications point to Symposium Call Center Server as the best solution to offer the customer, you can use the remainder of this workbook to guide you through the process of deploying the product.

Preliminary engineering analysis

Once you have selected Symposium Call Center Server as your recommended solution, you must perform a preliminary engineering analysis to obtain an initial, broad-brush view of the system configuration that best suits your customer. The following resources provide the tools and knowledge you need to perform the analysis:

- *Symposium Call Center Server Planning and Engineering Guide*
- Symposium Call Center Server Capacity Tool
- Meridian Configurator Tool/NetPrice

You can find the *Symposium Call Center Server Planning and Engineering Guide* and the Symposium Call Center Server Capacity Tool/NetPrice on the Nortel Networks Web site. You can register to receive the Meridian Configurator Tool/NetPrice at the Nortel Networks Partner Information Center (PIC) Web site (http://www.nortelnetworks.com/prd/picinfo/).

Use the answers from the questions you posed during the Business Needs Assessment, along with your *best* estimates on more detailed information about the desired contact center, to leverage these tools to determine the configuration of the proposed system. Nortel Networks recommends that you do not use the default values in these tools to plan/engineer the proposed system.

Business needs assessment checklist

Activity	Response
UNDERSTANDING THE NEED	
What are the customer's business objectives in relation to the desired contact center at the corporate level? Divisional level? Contact center level?	
SIZING THE PROJECT	
How many contact centers are there in the organization? (Please fill out the information for each site individually, and then provide a transaction flow summary for the multiple locations.)	
How large will the new contact center be?	
How many contact center agents will there be? How many shifts?	
How many groups/skillsets will there be?	
How many agent supervisors will there be?	
What is the expected maximum, minimum, and average call volume measured in number of calls per hour?	
Due to the nature of the business, are seasonal peaks, unpredictable critical peaks (natural disasters, emergencies, and so on), or other types of peaks expected?	
What will be the geographic dispersion of center locations, agents, and supervisors?	

Business needs assessment checklist

Activity	Response
What is the planned/potential growth for the contact center for each of the following listed items:	
Agents?	
Shifts?	
Skillsets?	
Supervisors?	
Call volumes?	
Remote locations?	
Other?	
Is NACD/NCC/Pre-termination routing functionality for multiple networked locations involved?	
REQUIRED FUNCTIONALITY	
Will the contact center be used for inbound calls, outbound calls, or a combination of both?	
If both, what percent will be inbound and what percent will be outbound?	
Is the site using an outbound Predictive Dialer (release, version, ports)?	
Is IVR deployed or required and how will it be used?	
What other specific capabilities and functionality does the customer require now? In the future?	
Will agents use screen pops?	
Is CTI a required capability?	

Business needs assessment checklist

Activity	Response
How will calls be routed and treated (for example, Meridian Mail, CallPilot, RAN, NACD)?	
Describe how skill-based routing will be deployed in relation to agent groups.	
Will the contact center be handling e-mail requests from customers?	
Is Web interaction with the agents a required capability now? In the future?	
Is transaction blending a required capability now? In the future? (voice, e-mail, and Web queued to the same agent staff.)	
Will the contact center database be accessed from other systems for business decision-making? Describe the system(s).	
Will the contact center have remote agents (now and in the future)? How many? Where?	
What specific capabilities are planned or required now or in the future, and in what time frame?	
How many different transaction flows and treatments are there (major functional groups)?	
What are the desired transaction flows and treatments? List by number or group (e.g. sales is 800-for-sale), describe treatments and transaction flow.	
What types of reports does the customer require?	
Are customizable reports a required capability?	

Business needs assessment checklist

Activity	Response
EXISTING FUNCTIONALITY	
Does the customer currently have a contact center?	
If so, what telephony equipment is currently installed (switch, voice mail, voice mail access ports, and so on)?	
What are the configuration/engineering details (release, version, ports)?	
What Nortel Networks software applications are currently being used (release, version, ports)?	
What third-party software applications are currently being used (release, version, ports)?	
What aspects, if any, of the solution need to operate in an identical manner to the current contact center?	
What areas require equivalent but not necessarily identical operation?	
What aspects of the current contact center's functionality are not important in the new solution?	
What improvements over current functionality does the customer expect?	
What is the customer's LAN and desktop infrastructure (for example 10/100 Ethernet)?	
Is the customer's LAN infrastructure IP Multicast enabled?	
Has a bandwidth engineering analysis of the LAN been performed?	

Business needs assessment checklist

Activity	Response
If so, how much of the LAN traffic capacity is currently being utilized?	
Is a LAN upgrade required to accommodate Symposium Call Center Server traffic now? In the future?	
What comprises the desktop infrastructure in terms of hardware and applications?	
What security/firewall applications are in use?	
Is there a standard corporate security/virus detect "package" loaded on every server and desktop?	
Does the site utilize a Citrix environment?	
What equipment/applications in the existing contact center will the customer want to continue using in the new solution?	
SUPPORT AND MAINTENANCE	
Who supports the existing contact center?	
Who manages the customer's existing network?	
Does the customer have distinct Telecom and IT departments?	
Are IT practices and procedures in place?	
Is there a configuration map, including addresses and firewalls, of the existing LAN?	
What roles and responsibilities will the channel partner and customer have if any parts of the project are subcontracted?	

Business needs assessment checklist

Activity	Response
Will the contact center be maintained and supported by the customer's or channel partner's IT group, telephony support group, both, or another agency?	
How will tasks be segregated to different groups?	
What level of expertise do the designated support groups have in	
Telephony?	
Windows 2000?	
PC hardware?	
Internet browsers?	
Data communications/LANs?	
TCP/IP Networking?	
ATM?	
Crystal or equivalent report generation software?	
What skills to install/maintain/support Symposium Call Center Server are in place? How will these skills be obtained?	
What is the plan for developing/testing and implementing business script changes?	
Will Nortel Networks PSO or another agency be required to install, project manage, or implement the contact center?	
If so, list the services that will be required.	

Moving through the Proposal stage

The Proposal stage is not just about price, technical specifications, or product; it is also about managing risk and margin protection. A detailed plan of action and Scope of Work are essential to mitigate risk and prepare for success. Risk management is a balancing act that can easily be managed by using the proper tools and methods of discovery, planning, and expectation setting.

Price, specifications, schedules, and product are merely the figures being manipulated during the risk assessment. It is risk assessments and the exposure they bring that dictate the success or failure, profitability, customer satisfaction, and amount of conflict generated in a project. The next few sections—Creating the Functional Design, Engineering the solution, Defining the Project Plan and Scope of Work, and Submitting the Final Proposal—cover the various aspects of the Proposal stage.

Managing conflict

Conflict is inevitable in any project. During the Proposal stage, it is typically viewed as constructive because it contributes to ensuring that all aspects of the project are considered, all possible solutions are examined, and an optimum proposal or solution is developed for all parties. However, those same issues raised later in the project during project implementation are often destructive.

At this stage, nearly all options are still open, and there is ample time to raise questions, express concerns, or change requirements. Expectations on either side have not yet been firmly set. The commitments that will lock parties into certain scenarios and performance requirements are yet to be made. Decisions on critical matters such as funding, manpower, schedules, division of responsibilities, and technical performance have not yet been made.

If a customer's expectations are unrealistic, there is usually an opportunity for you to reset them without reprisal or acrimony. If you discover problems or additional requirements, you can still rework the plan and pricing. Moreover, it is much easier to negotiate and change a sentence on a piece of paper than it is to recable a building. It is also much easier to ask for additional funding during negotiations than it is after the contract has been signed.

Once the contract is signed, much of the flexibility on both sides disappears because a signed contract represents commitments, agreements, and fixed positions. The signing is viewed as an announcement that "we are done," at least with regard to negotiating price, schedule, technical requirements, and so forth. Questions raised after the contract is signed can lead to either side questioning the good faith of the other and can jeopardize the success of the relationship, even if contingency funds or plans are available.

Service provider's role

The burden for the proposal, as well as the navigation through the negotiation process, falls to your company because you are the experienced party—the subject matter expert. It is unlikely that the customer has the depth of expertise and experience to know what should be included in a negotiation and in a contract. Again, if a detailed Scope of Work (SOW) is drafted based on project complexity, most misunderstandings can be avoided. It is incumbent on the channel partner to ensure that the SOW is reviewed, clearly understood, and adhered to. Customers usually do not mind extending the scope or fees as long as the work requested is clearly not included in the SOW.

Involving the service department early on

A critical element to proposal and project success is to engage the Service/ Installation department early on in the development stages of the proposal. A recommended trio for the proposal stage review is the Project Manager, Lead Technician, and System Design Specialist who will build the transaction flows for the site. The Service department typically provides technical and design consultation. The challenge is to get this invaluable information prior to an order for the proposed solution being received.

Limiting involvement of the Service department to site surveys, a technical review, or a review of anticipated job hours can lead to inadvertently missing out on the best methods for identifying potential conflict and margin loss during the project implementation. To ensure that the risk factors associated with project implementation are reviewed and discussed in the proposal in appropriate detail, Service personnel should become involved with the Symposium Call Center Server project during the Proposal stage. They should also be an integral part of the proposal process, including participating in the risk assessment and in the business decision-making process.

Clarifying ambiguities

Clarification of ambiguities is critical to the construction of the relationship, ensuring fairness in negotiation and achieving project goals. It requires a holistic business view, and one individual or department rarely possesses all the knowledge necessary to construct this view.

From the start of the Proposal stage, *all* of your company's departments—including Service—should be involved. The role of Service personnel often involves sharing experiences and expertise related to project implementation. This information is useful in helping to clarify ambiguities and resolve issues related to the project implementation portion of the proposal.

Understanding requirements

To be consistently successful with the Proposal stage, and later on during project implementation, Service personnel provide invaluable experience with regard to thoroughly understanding the customer's requirements. Only by understanding these requirements can your company develop an accurate and equitable proposal.

Service personnel should review all the information gathered during the Business Needs Assessment stage and ensure that they understand

- why the customer is buying a new Symposium Call Center Server
- the key factors influencing that decision
- what the customer believes this purchase will accomplish
- the critical "must haves," whether they relate to technical performance, product, or service deliverables
- if the customer's personnel are aware of their roles and responsibilities in the project
- what consultants or third-party vendors are associated with the project and what their roles will be
- if the customer personnel responsible for implementing Symposium Call Center Server are involved in the selection and negotiation process
- the customer's business and its critical elements

Planning

The Project Plan centers on how the job will actually get done— in other words, who will do what and when. It defines the roles and responsibilities of your company, the customer, and any third-party agents, as well as the key deliverables and how those deliverables will be met. Although you may not be responsible for third-party vendors, identifying them and their roles as part of the proposal, along with outlining the specifics of what your organization will do with the vendor, may clear up significant issues later on in the implementation process. The Project Plan "thinks through" how technical specifications and interaction with other systems will be accomplished.

Gathering information

The following table indicates the key elements that must be included in the proposal package and the stage in which the pertinent information is gathered or determined:

Required proposal information	Stage information is collected
Customer RFP (if available)	Pre-Business Needs Assessment
Basic customer information, including name, address, key contact, multiple or single site, campus environment	Business Needs Assessment
Identification of any unusual customer requirements	Business Needs Assessment
Identification of what is most important to the customer	Business Needs Assessment
Product information	Business Needs Assessment
Known competitors (including intra-brand)	Business Needs Assessment
Brief description of the customer's business and the existing contact center system (if any) being replaced	Functional Design
Process information regarding existing contact center (if applicable)	Functional Design

Required proposal information	Stage information is collected
Functional design information regarding existing contact center (if applicable)	Functional Design
Functional design information regarding proposed contact center	Functional Design
Information regarding other systems currently present at the customer's site, or other systems that interface with the existing or planned systems	Functional Design
Engineering specifications for proposed contact center	Engineering the Solution
Environmental specifications	Engineering the Solution
Technical and Operational Scope of Work, including activities subcontracted to groups such as PSO or Advanced Deployment	Scope of Work
Requested activities to which you take exception, (that is, what you will not perform or take responsibility for)	Scope of Work
Key milestone dates of the project, including its proposed start and in-service dates	Project Plan
Requirements placed upon the customer, such as switch room preparations and environmental conditions, pre-existing LAN equipment, and LAN performance	Project Plan
All terms and conditions of performance	Final Proposal
Identification of key potential exposures, including description and risk assessment	Final Proposal
Special performance requirements	Final Proposal
Setting customer expectations for project implementation (disruptions, customer responsibilities, and so on)	Final Proposal

Generating the proposal

The most effective method for ensuring proper participation, review, and risk assessment is to create a process for generating the proposal. While the actual flow of information and documentation varies from one organization to another, certain elements must be present in the process for it to be effective:

- definition of roles and responsibilities
  - Who is prime for the proposal?
  - Who is responsible for logging, disseminating, and tracking all information and documentation?
  - Who is responsible for the proposal schedule?
- process to ensure handoffs of critical issues and information from one group to another
- process to ensure participation and sign-offs

Creating the Functional Design

The Business Needs Assessment and Functional Design stages are the most crucial steps in a successful deployment of a Symposium Call Center Server solution. A failure to give adequate attention to these steps can lead to costly mistakes, oversights, and schedule overruns, resulting in customer dissatisfaction with your company and the product provided.

By partnering with the customer to complete this activity, you can ensure that the data you have collected is as accurate as possible and that definition of the new contact center operation will meet the customer's business objectives. Once again, having a customer who has been trained on the product up front makes performing this task much easier.

The objectives of creating the Functional Design are to

- provide a detailed description of the operation of the existing (if applicable) and proposed contact center, including a detailed definition of the reporting and transaction flow diagrams
- carefully document all existing integration points and interfaces with which the Symposium Call Center Server must interact

- identify some of the organizational and business process changes that will be required by the customer to facilitate implementation and ongoing support
- further refine the preliminary engineering analysis of Symposium Call Center Server carried out during the Business Needs Assessment stage

Functional Design steps

If the customer is migrating from an existing contact center solution, you must perform a migration analysis. This involves collecting information related to the function of the existing center and reviewing its operation from a business process perspective to identify any required changes for integration of the new solution.

After the migration analysis, you must determine the operation of the new contact center and define the transaction flow diagrams. You must also carefully review all integration and interface points between the previously existing call center technologies and their new integration with the Symposium Call Center Server. This review must document any modifications and upgrades that may be required for other systems in the contact center, such as quality monitoring systems, reader boards, workforce management systems, CTI solutions, and so on.

Finally, you should revisit the engineering analysis for further refinement and ensure that you identify any changes or oversights in the initial assessment as early as possible. The outcome of this analysis is a document or set of documents outlining the Functional Design of the proposed contact center along with a more refined engineering analysis.

Functional Design tasks must be completed by trained, certified, product-knowledgeable sales engineers or technical staff who will be involved in the actual installation. By using untrained individuals or by giving this activity only a cursory effort, you risk discovering later on that you have underestimated the project and that you have not included the necessary hardware or professional services, or both. This, in turn, can lead to schedule overruns, cost arguments, and problems in delivering what you promised to the customer.

Required courses and skills

Staff involved in Functional Design efforts should have the skills defined for a First-Level TAC Technician/Engineer in the Nortel Networks *Computer-Telephony Skills Training Workbook* for the Symposium Call Center Server product. Additionally, these technicians/engineers must have attended the following three courses and all required prerequisite courses offered by Global Knowledge:

- Symposium Call Center Installation and Maintenance
- Symposium Call Center Server Client Administration and Management
- Symposium Call Center Server Scripting

Visit the training Web site at www.get.globalknowledge.com/norteltraining/ for more information about available courses and prerequisites. In Asia Pacific, visit http://www.nortelnetworks.com/td. For information about Nortel Networks accreditation program, see “Accreditation and certification” on page 28.

If your organization has not acquired the necessary skills and training listed above, you can engage Nortel Networks Customer Contact and Self Service Solutions - Professional Services Organization for the migration analysis or transaction flow definition (or both) needed to implement Symposium Call Center Server. In Asia Pacific, contact your local channel account manager for services available in your region.

Performing the analysis

You must formally document the Functional Design stage so that you can share it with all members of the project implementation team when they are assigned. The analysis/design should address six major elements:

- Overview
- Technology gap analysis
- Operational impact analysis
- Contact center Functional Design
- Defining the transaction flows
- Understanding reporting requirements

Overview

This portion of the design document should include a brief description of the customer's organization, as well as its location and type of business. For existing contact centers migrating to Symposium Call Center Server, your overview should also include a description of the existing contact center along with the total queue, agent, and supervisor loads. For new contact centers, you should address the expected total queue, agent, and supervisor loads.

This section should also list the major physical components of both the new and existing (if applicable) contact centers, including the switch type and software release, all auxiliary processors, and third-party applications. You will already have gathered most of this information during the Business Needs Assessment stage.

Technology gap analysis

In this section, you should cover items of a critical nature that you need to address prior to implementing Symposium Call Center Server; for example, upgrading the switch to a C-class processor, upgrading agent voice terminals, expanding customer LAN capacity expansion, and so on.

Operational impact analysis

This portion of the design helps you identify any anticipated contact center operational differences that may be encountered when the customer migrates from an existing contact center to Symposium Call Center Server. In performing the impact analysis, you must do the following:

- Review the information gathered during the Business Needs Assessment stage:
  - aspects of the solution that need to operate in an identical manner to the current contact center
  - areas that require equivalent (but not necessarily identical) operation
  - aspects of the current contact center's functionality that are not important in the new solution
- Evaluate current operational processes, such as agent scheduling, agent login, supervisor use of real-time displays, reports, and so on.
- Identify potential alterations to current processes resulting from the increased flexibility in skillsets, reporting, and real-time displays offered by Symposium Call Center Server.

- Recommend operational modifications.
- Recommend Symposium Call Center Server training requirements for supervisors and agents.

Contact center Functional Design

During this stage of the analysis, you must reference a set of detailed checklists to determine the operation of all aspects of the contact center organization, including customer call types and agent operation. If the proposed solution involves a migration from an existing contact center, you must gather details of the current contact center implementation and decide how you will provide equivalent functionality (if required) for the new contact center.

The design is typically broken into seven major areas: General Items, Calls, Agents, Contact Center Components, Call Routing/Call Presentation, Contact Center Management Tools, and the Customer LAN environment. The checklists at the end of this chapter can help you perform this task. Although these checklists attempt to cover as much of the contact center operation as possible, every contact center application is different, and you may need to customize the checklists for each analysis.

Defining the transaction flows

Definition of detailed transaction flows and development of transaction flow diagrams helps to ensure that the contact center will meet the customer's contact center business requirements defined during the Business Needs Assessment stage. Transaction flows will also impact how you engineer the final solution.

An up-to-date, documented view of transaction flows will also prove critical in the ongoing support and maintenance of the contact center. When you define the transaction flows, you should consider how they will be updated and documented.

At this point, you must to examine the data collected from completing the checklists, as well as the information listed below, documenting them as part of the final Functional Design:

- **Call Type Summary** identifies the various call types and provides information on the service and caller types that the contact center supports. You use this information to develop the transaction flow diagrams.

- **Default Routing Treatment** identifies the types of treatments that will be provided in the case of a communication failure between the Meridian 1/CSE 1000 and the Symposium Call Center Server. Default routing scenarios must be carefully documented, considering agent operations, supervisory functions, reporting implications, and interaction with third-party applications resident in the contact center.
- **Agent Skillset Summary** provides information about each agent's primary skillsets. If this is a new contact center, you can identify the required skills, and then your customer can use these requirements to hire the contact center staff. You can also use this summary to design the Agent Skillset Matrix.
- **Agent Skillset Matrix** aligns agent skillsets with the contact center's call types and can be used to make decisions for call routing applications. You use this data to program Symposium Call Center Server during the Database Entry stage. This information will also prove invaluable to the customer during the creation of an agent staffing list.
- **Supervisor Profiles** must be defined and documented for each supervisor. You use this information later on during the Database Entry stage.

Transaction flow diagrams, based on the information you have collected thus far in the Functional Design stage, exhibit the call handling processes for call routing, call treatments, and decision-making that occur for each call type identified in the contact center. These diagrams form the basis for developing the script application. Up-to-date copies of the transaction flow diagrams should be maintained at all times to ensure that the operation of the contact center is fully documented and understood at any given point in time.

Understanding reporting requirements

One of the unique attributes of Symposium Call Center Server is the flexibility and openness of the database. The database enables the creation of very powerful reports that not only help contact center management from a technical perspective, but also contribute to business decisions made in the customer's organization.

Reports can help a company predict the impact and direction of its marketing programs. The customer can gather historical contact center information to determine whether certain geographic areas of the country respond better to different forms of advertising. Or the customer can use this information to

determine whether TV advertisements yield better results if run at a specific time or during a specific television program. In another example, the customer can configure a contact center to collect information on whether some agents are better at dealing with certain types of calls (sales versus technical queries) than others, thereby impacting the customer's overall organization, business structure, and mode of operation.

It is necessary to understand and document the output metrics and intelligence (database reports) a customer requires from the contact center so that you can configure the contact center to deliver the information. If the contact center is not configured to gather the required information, then the database cannot report it.

Customer intelligence requirements can impact a number of key areas in the contact center design, such as

- number of skillsets required
- number of Dialed Number Identification Service (DNIS) required
- number of agents required
- number of applications required
- transaction flow design
- whether IVR is required or not
- server disk utilization
- server CPU utilization
- CLAN bandwidth utilization

Engineering analysis revisited

Once you have reviewed and documented all aspects of the design, you can refine the engineering view you obtained during the Business Needs Assessment stage. You should revisit the Symposium Call Center Server Capacity Tool, the Nortel Networks *Symposium Call Center Server Planning and Engineering Guide*, the Meridian Configurator Tool, and the additional detailed information you obtained through this activity to further refine the configuration.

Contact center checklist – general items			
	Existing contact center information (if applicable)	**Specify identical or equivalent functionality**	**Proposed contact center information (if applicable)**
SWITCH			
Type			
Product release			
Software release			
Package list or special packages			
Any other version-related information			
AUXILIARY PROCESSORS (Gather the following information for each processor.)			
Type			
Product release			
Software release			
Package list			
Any other version-related information			

Contact center checklist – general items

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
THIRD-PARTY COMPONENTS (Gather the following information for each component for both the existing and new contact centers.)			
Type			
Product release			
Software release			
Package list or special packages			
Any other version-related information			
CTI APPLICATIONS Agent Screen-Pop Applications (Gather the following information for both the existing and new contact centers.)			
Name			
Manufacturer			
Middleware			
Description			
Version or release			

Contact center checklist – general items

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
CRM APPLICATIONS Seibel, Oracle, SAP Applications (Gather the following information for both the existing and new contact centers.)			
Name			
Manufacturer			
Description			
Version or release			
OTHER APPLICATIONS Any other products integrated into the contact center, whether third-party or manufactured by Nortel Networks. (Gather the following information for both the existing and new contact centers.)			
Name			
Manufacturer			
Dependencies			
Description			
Version or release			

Contact center checklist – general items

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
STANDARD OPERATIONAL SCHEDULE			
Business days of operation			
Hours of operation, number of shifts			
SEASONAL PEAKS and SPECIAL EVENTS			
List any existing or future seasonal peaks, scheduled events or unexpected critical peaks (emergencies, natural disasters, and so on) that may have a dramatic impact on call volumes.			

Contact center checklist – calls

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
TYPES OF CALLS			
List each type of call function in the contact center by type of service, customer status, and so on. **Note:** This is important because each type of call has the potential to require a new skillset.			
List default treatment per call type.			
ACCESS NUMBERS TO CONTACT CENTER			
List each toll-free number providing access.			
List each local exchange phone number providing access.			
For inbound 800 services with DNIS, list the associated DNIS.			

Contact center checklist – calls

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
WEB ACCESS			
List the number of WEB sites providing access and the reason for each, identifying the interactivity of each site and the Symposium Call Center Server functionality/ capability of the proposed contact center.			
CALL VOLUME			
(List the following information for each ACD-DN/CDN and, where possible, list for each call type.)			
Average hourly call			
Average daily call			
Average weekly call volume			
Average monthly call volume			

Contact center checklist – agents

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
NUMBER OF AGENTS			
List the number of agent positions for each queue.			
List the number of lead agents for each queue.			
If the contact center has a multiple queue assignment environment, list the approx. percentages of agent loads in queues of each priority.			
Identify how agents will be assigned and how often they will be reassigned.			
Identify whether all agents will log on and off at the same time.			
AGENT SKILLS			
If the contact center is a multiple queue assignment environment, identify the skillset definitions and their basic functions.			

Contact center checklist – contact center components

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
NUMBER OF ACD QUEUES AND CDNS (Identify the following information for each Queue or CDN.)			
Number			
Associated Calling Party Name Display			
Report reference name for reporting systems			
INBOUND TRUNKS (Identify the following information for each inbound trunk route.)			
Route number			
Route type			
Number of trunks in the route			
DNIS available (Y/N)			
MUSIC ON HOLD			
Where applicable, identify the music source for music on hold in the queues.			

Contact center checklist – contact center components

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
MUSIC ON DELAY			
Where applicable, identify the music source for music on delay in the queues.			
RECORDED ANNOUNCEMENT (RAN) TRUNK USAGE (Identify the following information for each RAN route.)			
Route number			
Number of trunks in the route			
Queues using this route for the firstRAN functionality and associated timer delays			
Queues using this route for the second RAN functionality and associated timer delays			
Queues using this route for the nightRAN functionality and associated timer delays			
CDNs using this route for the firstRAN functionality and associated timer delays			

Contact center checklist – contact center components

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
CDNs using this route for the second RAN functionality and associated timer delays			
CDNs using this route for the nightRAN functionality and associated timer delays			
List the purpose and description of the RAN message.			
HOLD IN QUEUE FOR IVR APPLICATIONS			
Where applicable, list the Meridian Mail Voice Service DNs/CallPilot SDN entries (SDN used in scripts in the existing contact center, and give a brief description of the functionality of the service).			
If using a third-party voice mail system, identify the associated ACD-DNs and treatment DNs.			

Contact center checklist – contact center components

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
IVR APPLICATIONS (Identify the following information for each RAN route.)			
Number			
Brief description of the application			
VOICE MENUS, VOICE FORM APPLICATIONS			
Where applicable, list the voice menu and voice form applications in use, including applications that act as front-end services and are not used for Hold in Queue for IVR applications.			
AGENT TELSETS			
Identify the type of station sets in use in the contact center, and if unique by ACD-DN/skillsets, identify the queue/skillset and set type quantity.			

Contact center checklist – contact center components

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
NUMBER OF SUPERVISORS, SUPERVISOR WORKSTATIONS			
List the supervisors.			
List the agents associated with each supervisor if MQA supervisor logon is not enabled.			
IDC TABLES from Switch			
If IDC tables are present on the existing contact center and are used for processing on any of the previously listed inbound trunk routes, list the tables and their entries.			
ACTIVITY CODES			
List the activity codes in use from the Meridian MAX Parameter Administration database in the existing contact center, if applicable.			

Contact center checklist – call routing/call presentation

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
ACD GROUP/SKILLSET FUNCTIONALITY			
For each ACD queue/skillset, provide a description of the purpose and functionality. If a form of skill-based routing exists in the contact center, list the agent skillset matrices.			
DNS INFORMATION			
List any DNIS numbers and give a description for each.			
SCRIPTS AND ADMINISTRATION DATABASE			
List all the scripts in the existing contact center and identify those having functionality that must be replicated on the new contact center.			
Provide a copy of the association table and variable table from the existing contact center.			

Contact center checklist – call routing/call presentation

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
TRANSACTION FLOW DIAGRAMS			
Provide a basic flow chart describing the transaction flow for the major call support services, beginning from the point of entry from the public network and ending with the call queuing and on-delay options.			
AGENT DISPLAYS			
Identify any special agent set displays.			
Identify any special DNIS naming.			
List any special Calling Party Name Display data block information that must be duplicated on the new contact center.			

Contact center checklist – contact center management tools

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
REPORTING PACKAGES			
Identify the method of reporting. (If a third-party reporting system is in use or will be used, identify the manufacturer and give a product description.)			
Identify how many positions displaying real-time statistics exist in the system and the real-time display refresh rate.			
STANDARD MANAGEMENT REPORTS			
Provide copies of all standard management reports that must be duplicated for the new contact center.			
SCHEDULING/ FORECASTING TOOLS			
List all third-party agent scheduling or call forecasting tools in use or to be used.			

Contact center checklist – contact center management tools

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
Identify how the applications listed above obtain data to make calculations (real-time data via MAX MSI, real-time data via MAX or C2 “screen scrapes,” or historical data via MAX Data Stream Reporting).			
SUPERVISOR WORKSTATION ACCESS			
Identify how supervisor display terminals for the reporting system are used on the existing contact center (real-time displays, historical report access, system administration, and so on), and how they will operate on the new contact center.			
READER BOARDS			
List the number of reader boards employed or required, as well as the manufacturer and integration type.			

Contact center checklist – customer LAN environment

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
LAN INFORMATION			
Identify the customer LAN in place (if any), the type of LAN, and the speed and type of cabling.			
Check the availability of an engineering analysis and current traffic study for the existing LAN.			
Determine whether the existing or proposed LAN has sufficient traffic capacity to support Symposium Call Center Server as proposed in the preliminary engineering analysis, with some room left for traffic growth. **Note:** Total utilization of the CLAN, including Symposium Call Center Server traffic should not exceed 30%.			

Contact center checklist – customer LAN environment

	Existing contact center information (if applicable)	Specify identical or equivalent functionality	Proposed contact center information (if applicable)
Determine the schedules for LAN maintenance routines and equipment resets, and how planned resets will affect Symposium Call Center Server.			
If you are using real-time displays or agent desktop displays in Web Client, verify that Multicast is enabled.			
SERVER UTILITIES			
Identify utility software (for example, security monitoring, and network utilities) and requirements (memory, disk space, and so on) that the customer expects to reside on the server for Symposium Call Center Server. Please note that application-class software is not permitted on the platform. See the latest Symposium Call Center Server Platform Vendor Independence Product Bulletin for details.			

Engineering the solution

Armed with the data collected during the Business Needs Assessment stage and the document developed during the Functional Design stage, you should now have enough information to determine the optimum configuration for Symposium Call Center Server—including the required hardware, software, and professional services—to successfully implement the project:

- Review the configuration recommended by the Symposium Call Center Server Capacity Tool and Meridian Configurator Tool.
- Review the Functional Design document.
- Review the mandatory and optional feature prerequisites listed in this chapter.
- Identify the equipment and software you will need for your proposed solution, including any prerequisites.
- Revisit the engineering analysis through the Symposium Call Center Server Capacity Tool, the Meridian Configurator Tool, and the *Symposium Call Center Server Planning and Engineering Guide* to ensure that the proposed configuration is a feasible, workable solution for your customer.

Several prerequisite conditions must be met before you can successfully deploy Symposium Call Center Server—those categorized as "Mandatory Prerequisites" and those that are "Prerequisites for Optional Features."

Mandatory prerequisites

Telephony

- Symposium Call Center Server Release 4.2 and later must be used in conjunction with a Meridian 1/CSE 1000 "C" processor, such as Option 11C, 51C, 61C, 81C, and 81.
- Symposium Call Center Server does not support a copper-connected Option 11C. Therefore, you must upgrade a copper-connected Option 11C to a Fiber Cabinet Option 11C to support an Ethernet LAN connection.

  If you upgrade from a copper 2-cabinet Option 11/11E to a fiber 2-cabinet Option 11C, then you can use the Ethernet connectors that are available through Nortel Networks. If the system is a copper 2-cabinet Option 11C, then you must upgrade to a fiber 2-cabinet Option 11C.

The Nortel Networks *Product Catalog* provides details on the appropriate parts to upgrade the copper-connected Option 11C to a fiber cabinet Option 11C. Refer to the Nortel Networks *Upgrade Management Workbook* for specific steps and procedures for performing a switch upgrade.

- The Meridian 1/CSE 1000 must be equipped with the appropriate Ethernet interface(s) (and external transceivers as required) to support connection to the embedded LAN (ELAN):

Option 51C	1	NT6D63BA (or later) IOP card OR
	1	NT5D20BA (or later) combo card OR
	1	NT5D61AA/B (or later) IODU/C card
Option 61C	2	NT6D63BA (or later) IOP cards OR
	2	NT5D20BA (or later) combo cards OR
	2	NT5D61AA/B (or later) IODU/C cards
Option 81C	2	NT5D20BA (or later) combo cards OR
	2	NT5D61AA/B (or later) IODU/C cards
Option 81	2	NT6D63BA (or later) IOP cards OR
	2	NT5D20BA (or later) combo cards OR
	2	NT5D61AA/B (or later) IODU/C cards

Switch software requirements

The Meridian 1/CSE 1000 switch requires X11 Release 24 or a later issue to support Symposium Call Center Server 4.2.

You must define and account for all the resources (for example, TN levels, number of agents, number of voice ports) defined on the Meridian 1/CSE 1000 switch to support Symposium Call Center Server because it does not share those resources with other applications. Also, you must engineer and provision the appropriate amount of resources to support Symposium Call Center Server.

Symposium software comprises four independent and additive packages. Required X11 software package prerequisites for each of the Symposium software packages are identified in the “Symposium” section of the Nortel Networks *Product Catalog*.

Embedded LAN (ELAN) requirements

The ELAN is a dedicated, segregated LAN that is used only for the traffic between the Meridian 1/CSE 1000 switch and Symposium Call Center Server. It must be physically separate from the Customer LAN (CLAN), and must also reside on a separate subnet. The subnet is indicated by the third byte of the IP address (xxx.xxx.XXX.xxx).

The only components that may be connected to the ELAN are the Meridian 1/CSE 1000 switch, Symposium Call Center Server, other native Nortel Networks application products such as CallPilot, Optivity Telephony Manager, and Internet Telephony Gateways, as well as the individual OA&M PCs to administer the switch or Symposium Call Center Server. In some configurations, a router is connected to the ELAN to control access to the Meridian 1/CSE 1000 switch for remote administration and OTM access and alarm management. The ELAN must be a TCP/IP Ethernet LAN. Note that the Symposium Web Client Application Server is *not* connected to the ELAN.

ELAN traffic capacity

ELAN traffic consists primarily of call processing-related traffic and Meridian Link Services (if applicable) traffic. It also carries networking traffic and call processing agent request traffic under some conditions.

The maximum acceptable utilization of the ELAN depends on the amount of traffic on the LAN, the length of the wire, and the size of the messages. The probability that packets will collide depends on these factors and affects the average delay within the network.

It is important to calculate the expected ELAN usage during the planning stage to avoid traffic bottlenecks and less than optimal performance by Symposium Call Center Server. For detailed information on how to calculate the expected ELAN utilization, refer to the *Symposium Call Center Server Planning and Engineering Guide* or use the Symposium Call Center Server Capacity Tool.

Total utilization of the ELAN should *not exceed* 10 percent, or else Symposium Call Center Server performance will be impacted.

ELAN hub requirements

Connection of the Meridian 1/CSE 1000 switch and Symposium Call Center Server on the ELAN requires a LAN hub, transceiver, and associated cables. You or your customer can supply the LAN hub and transceiver, or you can order these components from the Nortel Networks *Product Catalog*.

For example, in North America, Nortel Networks recommends the Baystack Model 51 8-port 10-base T Ethernet LAN hub. You can order this hub with a localized power cable for all global markets. You must purchase appropriate category 5 cable to be used with the Nortel Networks LAN hub as a separate item from Nortel Networks. The part numbers for ordering the Nortel Networks items are listed below:

CG1001E09 Baystack 51 10BaseT Ethernet Hub

A0383333 Nortel Networks Transceiver

A0648374 2-ft. Category 5 Cable

A0648372 4-ft. Category 5 Cable

A0648375 7-ft. Category 5 Cable

A0648377 10-ft. Category 5 Cable

A0648378 15-ft. Category 5 Cable

A0648379 25-ft. Category 5 Cable

Customer LAN (CLAN) requirements

A CLAN equipped to handle the communication between the Client PCs (supervisor workstations) and Symposium Call Center Server must be operational at the customer's site prior to installing Symposium Call Center Server.

For an Ethernet CLAN, 10BaseT/UTP, 10base5/Thicknet, or 10base2/Thinnet cabling may be in use. It is important to identify these attributes to ensure that you put the appropriate cabling in place and that you correctly configure Symposium Call Center Server to communicate on the CLAN:

- For an Ethernet CLAN, Symposium Call Center Server requires a 10BaseT or 100BaseT connection from the Network Interface Card (NIC) to a hub on the CLAN.

- TCP/IP is the only network protocol supported for communication between Symposium Call Center Server and the Symposium Call Center Client. This protocol must be installed and operational on the CLAN.
- The customer must provide a CLAN unique IP address for Symposium Call Center Server, as well as a CLAN subnet mask and the CLAN default router/gateway address.
- Client PCs that currently use IPX/SPX may add TCP/IP to the same PC. Refer to Novell's documentation for SPX/IPX and the specific TCP/IP vendor's (for example, Microsoft) documentation for interoperability implementations between the two network protocols.
- If the Symposium Web Client is to be used, the CLAN must support IP Multicast (for real-time displays and agent desktop functionality).
- Nortel Networks does not provide the Client PCs to be used as supervisor workstations. A list of the requirements for a client PC is included in the Client PC Requirements section in this chapter.

CLAN traffic capacity

The CLAN must have adequate available bandwidth capacity to handle the traffic between the Client PCs and Symposium Call Center Server to avoid functional problems.

The CLAN traffic consists primarily of real-time displays and real-time data Application Program Interface (API) traffic. The CLAN is also used to carry Meridian Link Services traffic and Host Data Exchange traffic (if these options are in use), as well as reporting related traffic and non-Symposium Call Center Server customer traffic.

Note: The use of the Symposium Web Client, with its use of IP Multicast, may significantly increase the CLAN traffic.

The Symposium Call Center Server use of the CLAN can be as high as 9 percent for a system with 500 agents and a large workload. Care must be taken to ensure that the CLAN has enough spare capacity to accommodate Symposium Call Center Server-related traffic, as well as customer traffic; otherwise, the operation of *both* Symposium Call Center Server and the customer's existing LAN communications will be impacted.

The maximum acceptable utilization of the CLAN depends on the amount of traffic on the LAN, the length of the wire, and the size of the messages. The probability that packets will collide depends on these factors and affects the average delay within the network. For detailed information about calculating expected CLAN utilization, refer to the *Symposium Call Center Server Planning and Engineering Guide*, or use the Symposium Call Center Server Capacity Tool.

Total utilization of the CLAN should *not exceed* 30 percent or Symposium Call Center Server performance will be impacted.

Channel partner/customer-supplied client PC requirements

The client portion of Symposium Call Center Server consists of Client PCs with the following hardware and software configuration. These workstations must be supplied by the channel partner or by the customer. Symposium Call Center Server client software will not install or function correctly if some other software products have or have not been installed. An inventory list of the software products installed on each PC must be provided by the end user for validation of operability. The *General Release Bulletin* contains details of software dependencies and preclusions.

Client PC configuration for Symposium Call Center Server classic client

Client PC hardware requirements

- Intel Pentium 90 MHz (or faster) CPU
- RAM

  at least 32 Mbytes for Windows 98

  at least 64 Mbytes for Windows NT 4.0 Workstation, Windows 2000 Professional, Windows XP
- disk space

  at least 2 Gbytes for Windows 98, Windows NT 4.0 Workstation, Windows 2000 Professional

  at least 4 Gbytes for Windows XP
- 1.44 Mbyte floppy disk drive
- VGA color monitor
- keyboard
- Microsoft-compatible mouse

- Ethernet Network Interface Card (NIC)
- CLAN connection running Microsoft TCP/IP
- 4-speed (or higher) CD-ROM drive
- (optional) parallel printer port
- (optional) serial port (16550 UART)

Client PC software requirements

- PCs up and running with one of the following operating systems installed:

  Windows 98

  Windows NT 4.0 Workstation (Service Pack 5 or greater)

  Windows 2000 Professional

  Windows XP

Notes:

- Windows XP is only supported on Rev. 5 of the Client CD.
- This list indicates the minimum required hardware for the client. If you are generating large reports on the client PC, a faster processor and increased memory improve performance.

PC requirements for use with the Symposium Call Center Web Client

Client hardware requirements

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

- Pentium III 733 MHz (Pentium II 300 MHz minimum)
- 128 Mbytes of RAM (64 Mbytes of RAM minimum)
- 20 Mbytes of available hard disk space for the Agent Desktop Displays component
- minimum 800 x 600 pixel resolution monitor (1024 x 768 pixel resolution is recommended for optimal display quality)
- 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 minimum Pentium II 300 MHz configuration should be adequate for normal operation in small contact centers (less than 50 agents). For increased activity and larger contact centers, a faster processor and additional RAM, or both, improves performance. For larger contact 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 later, Windows 2000 Professional, Windows 2000 Server, or Windows Millennium Edition (ME)
- Microsoft Internet Explorer 6.0 Web browser (minimum Microsoft Internet Explorer 5.5 with Service Pack 1)
- 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)

Custom reports requirements

Symposium Call Center Server provides a set of standard report templates, developed using Crystal Reports software, to generate reports. No third-party report writer is required to run these standard reports; however, if you want to modify the existing standard report templates, then you need a copy of Crystal Reports 8.5 or greater. Crystal Reports can be purchased from Seagate Software.

Any third-party report writer can be used with Symposium Call Center Server to generate custom reports as long as it supports general industry standard SQL or ODBC queries. Nortel Networks does not provide any third-party report writer packages. The channel partner or customer must supply the third-party report writer package if custom reports are required.

Printer requirements

The channel partner or the customer must supply a printer to enable the Client PCs to print out reports. Nortel Networks does not supply a printer with Symposium Call Center Server. The printer must be equipped with Microsoft Windows drivers and can be either a local or network printer. The printer must be set up as a default printer for Windows 2000. If the Symposium Web Client is being used, at least one printer must be directly addressable by the Symposium Web Client Application Server.

Prerequisites for optional features

The following Meridian Mail and CallPilot information helps you ensure that the appropriate hardware and software have been selected to interface with Symposium Call Center Server. You should also refer to the Nortel Networks *Product Catalog*, related Meridian Mail/CallPilot product bulletins, and documentation guides for additional voice services product-related details.

Meridian Mail/CallPilot software requirements

Many contact centers have a requirement for voice processing features above and beyond the normal delay announcement. Symposium Call Center Server integrated with Meridian Mail, CallPilot, or third-party voice services satisfies most customers' advanced requirements for voice processing. One or all of the following voice services can be chosen when designing a Symposium Call Center Server solution.

You require a *minimum* of Meridian Mail Release 8 or CallPilot 2.0 to enable each of the features listed below. Note that the Give IVR command may be used with a third-party voice system instead of Meridian Mail or CallPilot.

- **Give IVR** allows callers to be sent to an IVR session while remaining under the control of Symposium Call Center Server. This functionality is included in the CCS 100 package and requires a minimum of Meridian Mail Release 8, CallPilot 2.0, or a third-party voice system with equivalent functionality to operate correctly.

- **Give Controlled Broadcast Announcement (start/stop or continuous mode)** plays broadcast-type announcements to callers with up to 50 callers connected to a single Meridian Mail or CallPilot port. This command is only supported in the default mode, which is interruptible.
- **Open Voice Session** consists of the **Play Prompt**, **Collect Digits**, and **Play Expected Wait Time** operations. The **Play Prompt** command prompts the caller for information, while the **Collect Digits** operation collects the information entered by the caller. The **Play Expected Wait Time** gives the caller a voice announcement indicating what the expected wait time in the queue will be.
- **Host-Enhanced Voice Processing** is used for routing via Meridian Link Services applications.

The following table provides guidelines for the types of Meridian Mail/CallPilot ports required for each individual function if Meridian Mail/CallPilot is being used to implement voice processing capability in conjunction with Symposium Call Center Server:

Voice processing commands	Minimum type of Meridian Mail port required	Minimum type of CallPilot port required	Notes
Give IVR command	Basic Service Port with Access Option and Voice Messaging Option enabled	Voice Port	Requires a dedicated ACD DN and dedicated voice ports
Give Controlled Broadcast announcement	Basic Service Port with Access Option enabled	Voice Port	Requires a dedicated ACD DN and dedicated voice ports
Open Voice Session - Play Prompt - CollectDigits - Play Expected Wait Time (or other intrinsics)	Basic Service Port with Access Option enabled	Voice Port	Requires an ACCESS DN and dedicated voice ports

Voice processing commands	Minimum type of Meridian Mail port required	Minimum type of CallPilot port required	Notes
Host-Enhanced Voice Processing	Basic Service Port with Access Option enabled	Voice Port	Requires a dedicated ACD DN and dedicated voice ports

To ensure proper operation of Symposium Call Center Server with Meridian Mail, CallPilot, or third-party voice processing, *all* voice ports used by the server must be dedicated to the Symposium Call Center Server application by putting the voice ports into different ACD DNs. *Voice ports may not be shared between multiple applications*. For more information about calculating the number of dedicated Meridian Mail/CallPilot ports required for your solution, refer to the most recent *Symposium Call Center Server Planning and Engineering Guide* and Nortel Networks *Product Bulletin 1208-G.*

Meridian Mail hardware requirements

- **Meridian Mail Connection Hardware**

  You need the ACCESS Cable Kit and ACCESS Enable Software to interface Symposium Call Center Server with Meridian Mail and the Meridian 1/CSE 1000 switch. The ACCESS Cable Kit contains the cables and components to implement the physical connection between Symposium Call Center Server and Meridian Mail's data ports, while the software enables the connection. The cable kit is the same for all switch types, whereas the Enable software varies depending on the switch type. These items can be purchased from Nortel Networks.

  Order Code for ACCESS Cable Kit in North America – NTRH9027

- **Meridian Mail Enable Software for Option 11C**

  U.S. Order Code: SW7117

  Canada Order Codes: S0002826 for EC11 Mail

  S0005486 for Card Option Mail

- **Meridian Mail Enable Software for Option 51C-81C**

  U.S. Order Code: SW7030

  Canada Order Code: S0002826 for both Modular EC and Modular Option Mail

Note that while a minimum of Meridian Mail 8 is required, *Meridian Mail 10 or above is recommended to provide the high-speed access link of 38.4 Kbps*. The maximum speed of an access link depends on the card on which the port resides, and the speed of the links on the other remote switching module (RSM) ports on the same node (if they are connected).

- **Meridian Mail hardware required for use with an Option 11C**

Meridian Mail platform	Card and cable requirements
Card Option (does not support Meridian Mail Release 8)	RSM Card Assembly (NTAK18AA/ NTAK18BA) 4-port Fan Out Cable (NTDK58AA) OR 25-pair MDF Voice Cable (A037935) connected to a BIX Panel and DB-25 Peripheral Cable (NTAK36AA)
EC 11 (Meridian Mail Release 10 only)	Utility Card (NT6P03AA/ NT6P42AA) 4-port RS-232 Cable (NT6P0110)

- **Meridian Mail hardware required for use with Option 51C-81C PBXs**

Meridian Mail platform	Card and cable requirements
Shelf Option (Meridian Mail Release 8 only)	RSM Card (NTRH03AA/ NTRH03AB) 4-port Fan Out Cable (NT4R20AA/ A0358325)
Modular Option	RSM Card (NTRH03AA/ NTRH03AB) 4-port Fan Out Cable (NT4R20AA/ A0358325)

Meridian Mail platform	Card and cable requirements
Modular EC	Utility Card (NT6P03AA/ NT6P42AA) I/O to Backplane Cable (NT6P0123 or NT6P0114) 5-port RS-232 Cable (NT6P0109) or 4-port RS-232 Cable (NT6P0110) The cable choice depends on the configuration of the Meridian Mail data ports (that is, on which node the access ports reside)

Line drivers

If the voice services system is located more than 50 feet from the Symposium Call Center Server, you must use additional line drivers, which you can order from Nortel Networks. See the Nortel Networks NTPs for cabling information.

CallPilot hardware requirements

The standard platforms that support CallPilot 2.0 software are the following Nortel Networks supplied servers:

- 200i, 201i
- 702t, 1001rp, 1002rp

By definition, CallPilot must be connected to both the ELAN and the CLAN, and the communications between Symposium Call Center Server and CallPilot will use both LANs.

Symposium Call Center Server and CallPilot must reside on the same switch.

CallPilot software requirements

The following are the minimum requirements for the use of Voice Sessions in Symposium Call Center Server with CallPilot:

- CallPilot 2.0
- Symposium Call Center Server Release 4.2

- Symposium Call Center Server Service Update NS040206CPSU07S or later
- Meridian 1 X11 R24.24 or later, or Succession CSE1000 R1.1 or later

Meridian Mail and CallPilot operation

The following table identifies the differences in operation when using Meridian Mail and CallPilot for voice services with Symposium Call Center Server:

Function/Feature	Voice Services on Meridian Mail	Voice Services on CallPilot
Call Processing Control	Serial X.25 AML link	TCP/IP over CLAN (using MLSM)
Voice Services APIs	Serial Access Link	TCP/IP Access Link over ELAN
Voice Services APIs	Full Set	Editing APIs not supported (only required for Voice Prompt Editor)
Voice Prompt Administration/Editing	VPE from Symposium Call Center Server Admin in Classic Client	Voice Segment record/play from CallPilot AppBuilder; editing from third-party application such as PeriStudio
Voice Prompt Segment Storage	Associated with Mailbox, access controlled by mailbox password	Associated with Folder, no mailbox; access controlled by AppBuilder login
Voice Prompt Segment Length	2-minute maximum	10-minute maximum
Voice Prompt Segment Deletion	Segment IDs are shuffled	No reshuffling of segment IDs

Function/Feature	Voice Services on Meridian Mail	Voice Services on CallPilot
Voice Prompt Migration	Not applicable	Segment name is preserved and title will be concatenated to the description. Duplicated file names will be flagged as migrated from different mailboxes on Meridian Mail.
Voice Ports	Maximum of 96 available for voice services	Maximum of 95 available for voice services. Minimum of 1 port must be dedicated to messaging.

Engineering analysis revisited

Symposium Call Center Server is an evolution of the existing Meridian Call Center product line. It is built upon the feature content, operations, and capacities of Meridian MAX, CCR, ACD, NACD, Meridian Link Services, and other functions. It offers capabilities such as call routing control through scripting, agent handling, statistical data recording/reporting and real-time display, and intelligent voice processing.

Since Symposium Call Center Server offers many features and capabilities, there are no simple engineering rules. However, Meridian Configurator and the Symposium Call Center Server Capacity Tool automate the calculation of key engineering dimensions based on the input of a variety of engineering factors.

Engineering factors

There are a number of factors to consider when you engineer Symposium Call Center Server. These factors are the parameters set in the system that impact the amount of system resource utilization. Some factors will have more impact than others, but all must be carefully considered when you engineer the system.

These factors include items such as

- call rate and whether it contains spikes or is constant
- call complexity based on the expected number of call services per call
- configuration parameters (the number of agents, supervisors, applications, and so on)
- optional features configured (real-time displays, real-time refresh interval, historical data retention periods, historical data reporting queries, and so on)

The Symposium Call Center Server Capacity Tool calculates the optimum solution for your customer based on your determination of the value of these factors. Therefore, it is critical that the information you provide is as detailed and accurate as possible.

Engineering dimensions

The successful operation of Symposium Call Center Server depends on several key aspects of the solution. If not engineered properly, these aspects of the system can limit overall system performance. Each dimension is based on the resources that it uses. The Meridian Configurator Tool and the Symposium Call Center Server Capacity Tool calculate the optimum solution for your customer in each dimension if the information you provide on the engineering factors is detailed and accurate. The key dimensions are listed below:

- Symposium Call Center Server CPU, memory and disk utilization
- Symposium Client CPU, memory and disk utilization
- ELAN bandwidth utilization
- CLAN bandwidth utilization
- number of Meridian Mail/CallPilot voice ports required
- the system's peak capacity in calls/hour

You can obtain more detailed engineering information on how to calculate each of these dimensions in the *Symposium Call Center Server Planning and Engineering Guide.*

Engineering considerations

- **Server CPU Utilization**

  Symposium Call Center Server should be engineered so that the server CPU utilization does not exceed 35–40 percent on average. The

Symposium Capacity Tool does not permit configurations of greater than 50 percent. CPU utilization of more than 50 percent in general may result in exponential response times. The CPU utilization depends on the call rate, the call model, and the real-time display parameters.

- **Server Disk Usage**

  The amount of disk utilization depends on the historical data retention periods, the call rate, and the call model.

- **Server Memory**

  The less memory configured on the server, the higher the CPU utilization will be. In general, 256 Mbytes of memory is recommended for Symposium Call Center Server 702t and 1001t models.

- **ELAN Bandwidth**

  The maximum utilization of the ELAN is 10 percent; otherwise, traffic collisions will impact Symposium Call Center Server performance. Utilization of the ELAN is directly proportional to the call rate, the call complexity, and the Meridian Link Services usage.

- **CLAN Bandwidth**

  The maximum utilization of the CLAN is 30 percent; otherwise, traffic collisions will impact Symposium Call Center Server performance. The CLAN is used for both customer traffic and Symposium Call Center Server traffic; therefore, the effective maximum Symposium Call Center Server utilization is 30 percent – customer traffic usage. The CLAN is used for activities such as updating real-time displays, data exchanges, operations and maintenance tasks, and reporting.

- **PC Client Engineering**

  The recommended configuration for the PC Client appears earlier in this chapter. It is recommended that non-Symposium activities on the client be minimized. The recommended refresh interval for real-time displays is 3 seconds for all screens, but you should consider making it even higher (for example, 5 seconds).

- **Meridian Mail/CallPilot Voice Ports**

  When using Meridian Mail for voice services, Symposium Call Center Server communicates with Meridian Mail using a single Meridian ACCESS link that will support up to 96 Meridian Mail ports. The Meridian Mail voice ports must be dedicated to Symposium Call Center Server.

When using CallPilot for voice services, Symposium Call Center Server and CallPilot communicate over the ELAN and CLAN as described in previous pages. With CallPilot, a maximum of 95 voice ports/channels can be used for voice services in Symposium Call Center Server. The CallPilot voice ports/channels must be dedicated to Symposium Call Center Server.

Refer to Nortel Networks *Product Bulletin 1208-G* for more information about calculating the number of voice ports required for your application.

Defining the Project Plan and the Scope of Work

Success of each project relates directly to establishing a Scope of Work statement, a formal Project Plan with a project manager, and defined project roles, activities, and assigned responsibilities. All activities, including those subcontracted, should be assigned and covered by the Project Plan. Meetings and plans must be formal in nature. The project manager is an assigned individual who has no additional responsibilities in terms of the technical implementation of the project. The project manager then can focus on maintaining the scope of work for the project and the associated timelines for project implementation.

The customer's Contact Center, Telecom, and IT departments all play an important role in implementing a Symposium solution. Customer-assigned personnel for each area is a key factor during Project Plan definition and responsibility assignment to help minimize project problems as well as to help maintain the agreed schedule. Ensuring that the roles, responsibilities, Scope of Work, and schedule have been defined and accepted by all parties helps to minimize scope creep or changes to the project. Setting clear customer expectations by thoroughly considering all aspects of the project ensures that there is no confusion later during project implementation that can lead to customer dissatisfaction or project delays.

Operational and technical scope of work

The Scope of Work defines the roles and responsibilities of the service provider, the customer, and any contracted services required during the course of the project. It clearly outlines who is responsible for what activities and also identifies activities that the service provider is not responsible for or will not perform. Issues of changes, enhancements, and maintenance are considered and defined in the scope of work, again to help set expectations.

Customer contributions

To avoid confusion and unrealistic expectations, the scope of work should also include customer requirements. These requirements typically include switch room preparations, environmental conditions, pre-existing LAN equipment and LAN/WAN performance, building/contact center access, and identification of responsible staff. This information can be included specifically or in general in the scope of work as a part of the final proposal.

The Project Plan

The Project Plan centers on how the job will actually get done — that is, who will do what and when. It finitely defines the roles and responsibilities of the service provider, subcontracted support, and the customer, as well as the key deliverables, timelines, and dependencies for meeting the deliverables. The plan "thinks through" how technical specifications and inter-operability with other systems are planned. This task requires that you review the required skillsets and determine whether you have those you will need to install, support, and maintain the complexities of a contact center. Prior to a customer PO, this can be done at a high-level without timelines assigned. Performing a gap analysis will help you identify where outside professional services are needed to complete the project.

If the necessary knowledge and skillsets are in different groups (for example, if some are in a customer's organizations, while others are in the service provider's organization or subcontracted support), then you must define how these groups will work together and describe the primary interfaces into the groups. Some elements of the Project Plan may not be finalized before you submit the Final Proposal; however, Nortel Networks recommends that you finish as much as possible to ensure the completeness and accuracy of the proposal. You must identify the key milestone dates. It is recommended that the customer sign off on the Project Plan prior to the start of the site readiness evaluation.

The plan should include the following key elements:

- **Kickoff/orientation meeting** for all key personnel involved in the project.
- **Communications process** outlining how the various groups involved in the installation and ongoing maintenance of the contact center will communicate status and issues reports.
- **Change management plan** covering how changes to the site hardware, network addresses, transaction flows, scripts, and software are logged and tested. Nortel Networks has successfully used action registers to monitor activities, assignments, and resolutions.
- **Database collection/preparation plan** outlining the tasks, activities, and responsibilities associated with collecting the necessary information.
- **Cabling plan** outlining the tasks, activities, and responsibilities associated with cabling.
- **Switch room plan** covering the necessary tasks, activities, and resources to manage the switch room layout, hardware locations, and any other equipment required.
- **Scripting plan** covering the tasks, activities, and resources required to implement the transaction flows for the contact center technology with identification, where possible, on the internal process changes that the customer may require.
- **Management reports plan** detailing the activities and resources required to create and use the management reports and real-time display information.
- **Training plan** addressing the tasks, activities, and responsibilities involved with training the customer's contact center and operations staff on operational changes.
- **Test and acceptance plan** addressing the tasks, activities, and responsibilities involved with testing and approving the Symposium system(s) before cutover of service.
- **Cutover plan** covering the support for tasks, activities, and responsibilities involved with putting Symposium Call Center Server into service.

- **Transition plan** outlining the support for tasks, activities, and responsibilities associated with transitioning the project from the installation team to the ongoing maintenance team.
- **Maintenance plan** explaining the ongoing support for tasks, activities, and responsibilities involved with providing system maintenance, including problem resolution, updates, and changes. Nortel Networks recommends a formal review with the customer 90 to 120 days following cutover to review performance of the solution and to coordinate changes needed to comply with evolving changes in the contact center either as a result of the technology deployment or the enterprise business at large.
- **Additions/changes and upgrades plan** addressing the activities and responsibilities regarding how additions, changes, and upgrades to the system will be addressed.

The finalized Project Plan used during project implementation includes the specific dates for all aspects of the project and details dependencies as well as responsible parties. Nortel Networks recommends the utilization of a trained project manager, particularly for highly complex projects, to minimize risks.

Submitting the final proposal

During the Final Proposal stage, your organization will combine all the information gathered in the previous phases to complete a risk assessment and sales quote. This information forms the basis for the final documented proposal, which is then presented to the customer. A signed proposal that includes all of these elements will minimize misunderstandings related to the solution.

Risk assessment and contingency planning

The Final Proposal should include a list and description of the key potential risks identified for your organization and the customer's enterprise business. Any contingency plans needed to offset the risks are outlined and defined for inclusion as appropriate.

All terms and conditions of performance

The Final Proposal should identify any or all agreements regarding the terms and conditions of acceptable performance for the work it—or any contractor—performs.

The sales quote

The last step of the effort is to finalize the sales quote. The sales quote includes all the hardware, software, and services (either your internal organization's PSO, Nortel Networks PSO, or other subcontracted resources) costs, as well as the following items for presentation to the customer:

- the type of Symposium configuration that will best suit your customer's business needs
- the detailed knowledge of what product components are required to implement the solution
- a detailed Scope of Work and Project Plan, including a view of how the implementation will roll out with activities assigned to various groups
- the risks associated with the project

Customer sign-off

If the customer accepts the proposal and elects to purchase the Symposium solution, have the proposal signed along with receipt of the PO. This signature is the first step for the customer sign-off on the various phases of the overall project and acknowledges the customer's understanding of and commitment to the Functional Design, Scope of Work, Project Plan, and any identified risks.

Placing the order

Once the customer has accepted the proposal and signed off on the Functional Design document, Scope of Work, and initial Project Plan, the next step is to place the order. This step is relatively straightforward. A simple checklist appears on the following page to help you ensure that all the right components of the solution are ordered and that nothing is overlooked. Refer to the latest Nortel Networks *Product Catalog/Meridian Configurator/NetPrice* for ordering information.

	Item to be ordered	Date completed
1	Order required Meridian 1/Succession CSE 1000 hardware.	
2	Order required Meridian 1/Succession CSE 1000 software.	
3	Verify the customer will supply the PC workstations and Crystal Reports (or any ODBC-compliant report writer) on time for the project implementation.	
4	Ensure the customer will supply all Network (LAN/WAN) related components on time for project installation/ implementation.	
5	Identify the appropriate Symposium hardware platform based on the Capacity Tool configuration. Price if you are including the hardware as a value-add, or provide hardware recommendation to the customer along with the Capacity Tool as appropriate.	
6	Verify the correct Symposium hardware will be available on time for project installation.	
7	Order appropriate copies of Symposium software and licenses required to meet project specifications.	
8	Order subcontracted services, including Nortel Networks PSO if needed, to ensure scheduling meets customer expectations.	

Post-sales activities

Evaluating site readiness

Before installing Symposium Call Center Server, you should have all the required software, hardware, and documentation readily available. The installation staff should have the necessary skills, and they should ensure that all other aspects of the solution, including interconnecting hardware and the site itself, are ready.

Site readiness checklists

Nortel Networks has developed a series of site readiness checklists to assist you. High-level checklists appear at the end of this chapter. Formal checklists are also provided in the *Symposium Call Center Server Installation and Maintenance Guide*, as well as the *Symposium Call Center Server Symposium, M1/CSE 1000, and Voice Processing Guide*. You must fill in the detailed checklists provided in these guides for overall validation prior to beginning the installation process.

The checklists verify project readiness in the following areas:

- **Materials**

  Ensures that you have the materials you need to perform maintenance and diagnostic tasks.

- **Switch**

  Ensures the switch has been installed, all relevant aspects of the switch are in place, and all prerequisites have been met.

- **Meridian Mail/CallPilot**

  Ensures that the voice services engine for Symposium Call Center Server has been installed and that all relevant aspects—including the hardware, software, and required cabling to connect Meridian Mail/CallPilot to Symposium Call Center Server—are in place.

- **Server LAN**

  Verifies the availability of the CLAN and dedicated ELAN to permit communication between Symposium Call Center Server and the Meridian 1/CSE 1000 1 switch.

- **Server Operating System**

  Reviews whether the Symposium Call Center Server operating system has been installed and configured correctly.

- **Server Software**

  Ensures that the customer has supplied the required equipment and information, and provides an overview of the steps required to successfully install the server software.

- **Client PC**

  Considers whether the client PCs with all the required hardware and software are available and ready for installation.

- **Backup and Restore**

  Focuses on the equipment, LAN, and procedures necessary to successfully develop a backup process and recovery strategy.

Probe each of these areas in detail to help you determine the project's readiness before you proceed with the installation. If you discover that some checklist items are missing or incomplete, you must correct the item and update the checklist before proceeding with the installation.

Required skills and knowledge

Field engineers and technicians involved with Symposium Call Center Server site readiness and installation must have skills in the following areas:

- ability to perform base configuration of the Symposium Call Center Server Release 4.2 server
- experience installing the server hardware
- experience configuring of the operating system
- experience installing and configuring pcAnywhere
- experience installing the server software and database
- experience installing and uninstalling PEPs and Service Update packs
- experience installing Nortel Networks Meridian Mail/CallPilot
- experience installing Nortel Networks Meridian 1/CSE 1000 switch products
- experience or knowledge of Meridian 1 X11 software
- experience managing security (user account passwords, pcAnywhere passwords, and so on)

- experience working with system alarms and events
- experience backing up data, scheduling backups, restoring data
- troubleshooting skills

Additionally, field engineers and technicians should have attended the following courses and all required prerequisite courses offered by Global Knowledge:

- Symposium Call Center Server Installation and Maintenance
- Symposium Call Center Server Client Administration and Management
- Symposium Web Client with Symposium Call Center Server Installation and Maintenance

Site readiness checklists

	Project readiness	Date completed	Signature
	Item	**Response**	**Signature**
1	Scope of work and roles/responsibilities of all aspects of the installation have been clearly established and reviewed with the customer.	Yes/No	
2	Customer understands and agrees with what his or her responsibilities are.	Yes/No	
3	Project plan and project manager have been established.	Yes/No	
4	Communications plan has been agreed to.	Yes/No	
5	Kickoff meeting has been held with the customer.	Yes/No	

Site readiness checklists

	Project readiness	Date completed	Signature
6	Staff involved in the installation has access to the latest NTPs, release bulletins, product bulletins, distributor technical references, the Symposium Call Center Server Capacity Tool, the Nortel Networks Partner Information Center (PIC) Web site, and the Meridian PEP Library Web site.	Yes/No	
7	Nortel Networks patch/PEP process is understood and has been reviewed with the customer.	Yes/No	
8	Escalation process has been established and agreed to.	Yes/No	

Site readiness checklists

	Switch readiness	Date completed	Signature
	Item	**Response**	**Signature**
1	What kind of M1/CSE 1000 switch is being used? (Must be 11C Mini, 51C, 61C, 81C or 81)		
2	Identify Symposium Call Center Server release and Symposium Call Center Server software level ordered.		

Site readiness checklists

	Switch readiness	Date completed	Signature
3	Identify the switch serial number by using the TID command in overlay 22.		
4	Identify the software release by using the ISS command in overlay 22 (must be 24 or later, with PEPS).		
5	Identify the customer number by using overlay 21.		
6	Identify the CDN defined on the switch for testing purposes.		
7	Are two ACD phones available for testing purposes? (**Note:** The two phones *must not* be associated with any other applications, such as CCR or Meridian Link Services, nor with any ACD groups.)	Yes/No	
	Identify the directory number (DN) and terminal number (TN) of the first ACD phone.		
	Identify the DN and TN of the second ACD phone.		
8	Are all prerequisite X11 software packages as identified in the Symposium Call Center Server *Ordering Guide* present on the switch?	Yes/No	
9	Identify the patch/PEP level installed in the switch and confirm that this is the latest available patch/ PEP level for the installed software release level.		
10	Identify the switch name as it is to be defined in Symposium Call Center Server.		

Site readiness checklists

	Meridian Mail readiness	Date completed	Signature
	Item	**Response**	**Signature**
1	Are Meridian Mail hardware and software at the minimum requirements?	Yes/No	
2	Identify the patch/PEP level installed and confirm that this is the latest available patch/PEP level for the installed software release level.		
3	Will the Meridian Mail Access Link be used?	Yes/No	
4	Are the required Meridian Mail Access Link cables/ connectors available?	Yes/No	
5	What is the distance between Meridian Mail and Symposium Call Center Server?		
	If the distance is more than 50 feet, have line drivers been ordered and are they available for installation?	Yes/No	
6	Identify the method to be used to provide the data port connection to Meridian Mail Access.		
7	Has the cabling between Meridian Mail and Symposium Call Center Server been installed?	Yes/No	
8	Has the Meridian Mail Access feature been enabled?	Yes/No	
9	Identify the VSDN for the Meridian Mail Access Service.	VSDN:	

Site readiness checklists

	Meridian Mail readiness	Date completed	Signature
10	Identify the voice mailbox used to test the Meridian Mail Access connection.	DN: TN:	
11	Have a minimum of three ports for Meridian Mail Access been dedicated to Symposium Call Center Server?	Yes/No	
12	Confirm that the Meridian Mail voice configuration is correct according to the *Symposium Call Center Server Symposium, M1/CSE 1000, and Voice Processing Guide*.	Yes/No	
13	Confirm that the Meridian Mail hardware configuration is correct according to the *Symposium Call Center Server Symposium, M1/CSE 1000, and Voice Processing Guide*.	Yes/No	

Site readiness checklists

	CallPilot readiness	Date completed	Signature
	Item	**Response**	**Signature**
1	Is the CallPilot hardware and software at the minimum requirements (Release 2.0)?	Yes/No	

Site readiness checklists

	CallPilot readiness	Date completed	Signature
2	Identify the patch/PEP level installed and confirm that this is the latest available patch/PEP level for the installed software release level.		
3	Has the CallPilot Access feature been enabled?	Yes/No	
4	Identify the Service Directory Numbers (SDNs) for the CallPilot voice services.		
5	Use the CallPilot Application Builder to create, record, and manage voice segments.		
6	Confirm that the CallPilot voice configuration is correct according to the *Symposium Call Center Server Symposium, M1/CSE 1000, and Voice Processing Guide*.	Yes/No	

Site readiness checklists

	LAN readiness	Date completed	Signature
	Item	**Response**	**Signature**
	CLAN Information		
1	Does the customer currently have a functioning LAN?		
2	Identify the current traffic usage (as a percentage) on the customer LAN.		
3	Identify expected Symposium Call Center Server CLAN utilization.		
4	Is there enough bandwidth to support the proposed configuration and existing traffic?	Yes/No	
5	Is the CLAN connection for Symposium Call Center Server available? If not, when will it be available?	Yes/No	
6	Is the CLAN Network cable available?	Yes/No	
7	Identify the LAN access method specifics and cabling to be used. If the LAN access method is Ethernet, identify the kind of cabling that is being used (note that a 10BaseT or 100BaseT connection is required from the NIC to the CLAN hub).		

Site readiness checklists

	LAN readiness	Date completed	Signature
8	Is the TCP/IP currently installed and operational on the LAN?	Yes/No	
9	Identify the network unique IP address used to address Symposium Call Center Server on the CLAN (XXX.XXX.XXX.XXX).		
10	Identify the CLAN subnet mask (XXX.XXX.XXX.XXX).		
11	Identify the CLAN default router/gateway address.		
12	Has the user name, password, and domain name for access to the CLAN been identified?	User Name: Password: Domain Name:	
13	Is there an up-to-date diagram of the CLAN showing the location of all IP addresses?	Yes/No	
	ELAN Information (The ELAN must be physically separated from the CLAN and they must be on separate subnets.)		
14	Is the ELAN connection for Symposium Call Center Server available? If not, when will it be available?	Yes/No	
15	Is the ELAN hub available?	Yes/No	
16	Is the transceiver available and connected to the Switch AUI 15-pin connector?	Yes/No	
17	Is an Ethernet network cable in place from the transceiver to the ELAN hub?	Yes/No	

Site readiness checklists

	LAN readiness	Date completed	Signature
18	Is the Ethernet Interface configured on the M1/CSE 1000 switch?	Yes/No	
19	Identify the IP address for the switch on the ELAN.		
20	Identify the Subnet Mask for the switch on the ELAN.		
21	Identify the switch name for the ELAN.		
22	Identify the IP address for Symposium Call Center Server on the ELAN		
23	Identify the Subnet Mask for Symposium Call Center Server on the ELAN	Yes/No	
24	Is there a diagram of the ELAN showing the location of all IP addresses?	Yes/No	

Symposium Call Center Server readiness checklists

	Symposium Call Center Server software configuration readiness	Date completed	Signature
	Item	**Response**	**Signature**
1	What is the call rate (in Calls/HR) that will be reported?		

Symposium Call Center Server readiness checklists

	Symposium Call Center Server software configuration readiness	Date completed	Signature
2	How many days of call-by-call statistics will be stored? (usually two days)		
3	What is the complexity of the contact center?		
4	Identify the Symposium Call Center Server Windows 2000 computer name to be used.		
5	Identify the Symposium Call Center Server site name to be used.		
6	Identify the Symposium Call Center Server Windows 2000 group name to be used.		
7	Identify the two CLAN unique IP addresses to be used for remote access (dial-in support). (These addresses must be on the same CLAN subnet as Symposium Call Center Server and should be in sequence.)		
8	If a remote access server is used, identify the user logon ID and password for the server.		
9	Identify the analog line for the remote maintenance modem.		
10	Identify the PEP and Service Update (SU) level available for installation and confirm that it is the latest available for the Symposium Call Center Server software release.		

Site readiness checklists

	Client PC readiness	Date completed	Signature
	Item	**Response**	**Signature**
	Client PC hardware **Note:** This checklist indicates the minimum required hardware for the client. If you generate large reports on the client PC, a faster processor and increased memory improve performance.		
1	Does each client PC that will be running the Symposium Call Center Server client application meet the following requirements?		
	Intel Pentium 90 MHz (or faster) CPU	Yes/No	
	RAM: At least 64 Mbytes for Windows 2000 Professional, Windows XP, Windows NT 4.0 Workstation At least 32 Mbytes for Windows 98	Yes/No	
	Disk space: At least 2 Gbytes for Windows 2000 Professional, Windows 98, Windows NT 4.0 Workstation At least 4 Gbytes for Windows XP	Yes/No	
	1.44 Mbyte floppy drive	Yes/No	
	VGA color monitor	Yes/No	

Site readiness checklists

	Client PC readiness	Date completed	Signature
	keyboard	Yes/No	
	Microsoft-compatible mouse	Yes/No	
	Ethernet network interface card	Yes/No	
	CLAN connection running Microsoft TCP/IP	Yes/No	
	4-speed or higher CD-ROM drive	Yes/No	
	(optional) parallel printer port	Yes/No	
	(optional) serial port (16550 UART)	Yes/No	
	Client PC software		
2	Do client PCs have one of the following operating systems installed and running? Windows 98 Windows NT 4.0 Workstation (Service Pack 5 or later) Windows 2000 Professional Windows XP **Note:** Windows XP is only supported on Rev. 5 of the Client CD	Yes/No	
3	Are IP addresses on the CLAN dynamically allocated using dynamic host configuration protocol (DHCP)?	Yes/No	
4	Identify the CLAN unique IP address, CLAN Subnet, and the default router/gateway address (if required) of each Client PC.		

Site readiness checklists

	Client PC readiness	Date completed	Signature
5	Is there a desktop inventory for every client PC?	Yes/No	
6	Have any applications running on the client PCs that will prevent the installation of Symposium Call Center Server been removed?	Yes/No	
7	Have any software applications required for the successful installation and functioning of Symposium Call Center Server client software been installed on each Client PC?	Yes/No	
8	Identify the software level of Symposium Call Center Server client software that is available for installation and confirm that this is the latest software level available.		
9	Identify the PEP/patch level of Symposium Call Center Server client software that is available for installation and confirm that this is the latest PEP level available for the software that will be installed.		

Symposium Call Center Server readiness checklists

	Symposium Call Center Web Client readiness	Date completed	Signature
	Item	**Response**	**Signature**
	If you plan to install the Symposium Call Center Server Web Client, refer to the *Symposium Call Center Server Web Client Planning, Installation, and Administration Guide* in addition to completing this high-level checklist.		
	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.		
2	Test the Real-Time Statistics Multicast service.		
3	Download and apply the latest Service Update for Symposium Call Center Server.		
	Application Server		
4	Install Windows 2000 Server with SMTP, Internet Information Services (IIS), Terminal Services, and Terminal Services Licensing.		

Symposium Call Center Server readiness checklists

	Symposium Call Center Web Client readiness	Date completed	Signature
	Note: After you have finished installing all software on the application server, you must activate the Terminal Services License Server. Terminal Services can only communicate with the Terminal Services License Server 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.		
5	Install Windows 2000 Server Service Pack 1 or later, if it was not installed during the Windows 2000 installation.		
6	Install Microsoft Active Directory.		
7	Install Sybase Open Client v.12 for the Historical Reporting and Contact Center Management components.		
8	If Crystal Reports 8.0 is installed on the application server, you must apply Seagate Software's fix, Scr8_webregfix.exe, before you install Symposium Call Center Web Client. You can access this fix at http://support.crystaldecisions.com/updates		
9	Install the Symposium Web Client application software on the server.		
10	Download and apply the latest Service Update for Symposium Call Center Web Client.		
11	Configure Emergency Help.		

Symposium Call Center Server readiness checklists

	Symposium Call Center Web Client readiness	Date completed	Signature
12	Configure SMTP on the application server (if you are using the Historical Reporting component).		
13	Configure Terminal Services on the application server. **Note:** While configuring Terminal Services, you must activate the Terminal Services License Server on the application server.		
14	Configure the Agent Desktop Display server component (if Agent Desktop Display is going to be used on the agents' desktops).		
	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 PC's operating system.		
16	Configure Internet Explorer 5.5 Service Pack 1 (or later)		
17	Install Agent Desktop Display on the agent desktop PCs (optional).		

Site readiness checklists

	Facility readiness	Date completed	Signature
	Item	**Response**	**Signature**
1	Review the PVI Server Specifications to ensure that the server meets Symposium Call Center Server hardware and capacity requirements.		
2	Is space available for the Symposium Call Center Server and peripherals, and is there adequate space for access to the front, side, and rear panels of the server?	Yes/No	
3	Is the area isolated from strong electromagnetic fields and electrical noise sources (air conditioners, large fans, motors, radio or TV transmitters, or high-frequency security devices)?	Yes/No	
4	Is there adequate power and grounded electrical outlets for all equipment within six feet of the proposed Symposium Call Center Server location?	Yes/No	
5	Will there be room around the equipment for adequate air flow for ventilation?	Yes/No	
6	Are there any heat sources near the proposed equipment location?	Yes/No	
7	Does the facility meet the environmental requirements specified by the server vendor?	Yes/No	
8	Is the area clean and clear of debris?	Yes/No	

Site readiness checklists

	Facility readiness	Date completed	Signature
9	Is there a desk, shelf, or table space for the server SVGA monitor, keyboard, mouse, and modem?	Yes/No	
10	Has room accessibility been reviewed to ensure that installers/technicians can gain access when required?	Yes/No	
11	Is there an optional customer-supplied UPS for the server?	Yes/No	

Installing the hardware and software

During this stage of the project, certified, product-knowledgeable technical staff complete the actual hardware and software installation. Skills required to complete this step are the same as those identified in the Site Readiness Evaluation. If the required skills are not available to perform an installation, contact Nortel Networks Advanced Deployment organization for assistance (available in the United States only). In Asia Pacific, contact your local channel account manager for information about available services.

Staging

To reduce the installation time and alleviate potential problems, Nortel Networks recommends that you install and configure the operating system and the server application software in a lab environment or staging area prior to installing the server at the customer's site.

Installation checklist

An installation steps checklist in the *Symposium Call Center Server Installation and Maintenance Guide* outlines all the necessary steps to install Symposium Call Center Server. The guide also contains tips and checklists for pre-installation requirements, operating system installation and configuration, client and server software installation, conversion procedures, and backup and restore procedures.

Note: You must print and read all relevant checklists before you perform an installation.

Initial quality checks

Installation personnel should ensure that all the required hardware and software have been received and that the hardware has been installed securely in the server. If any discrepancies or problems are discovered, they must be corrected before proceeding with the installation.

- **Required hardware**

  Check the latest Symposium Call Center Server PVI Bulletin and the *Symposium Call Center Server Planning and Engineering Guide* for the latest server and client hardware requirements.

- **Required software**

  Symposium Call Center Server Server Application CD contains the setup program and all software to be installed on the server.

  Symposium Call Center Server Client Application CD contains the setup program and all software to be installed on the client PCs.

  Symposium Call Center Server Supplementary CD contains Service Updates (SUs) and product enhancement files (PEPs) for Symposium Call Center Server. If the disk does not contain the latest SUs/PEPs, you must download the latest SUs/PEPs from the Meridian PEP Library at https://www43.nortelnetworks.com/MPL (North America and Asia Pacific), or https://www21.nortelnetworks.com/MPL (Europe). These Web sites are accessible to authorized channel partners. Follow the instructions at http://nortelnetworks.com/register to register for access.

  Symposium Call Center Server Client Supplementary CD contains Service Updates (SUs) and product enhancement files (PEPs) for the Client PCs. If the disk does not contain the latest SUs/PEPs, then you must download the latest SUs/PEPs from the Meridian PEP Library at

https://www43.nortelnetworks.com/MPL (North America and Asia Pacific), or https://www21.nortelnetworks.com/MPL (Europe). These Web sites are accessible to authorized channel partners. Follow the instructions at http://nortelnetworks.com/register to register for access.

Symposium Call Center Server Documentation CD contains the NTPs (which include installation, maintenance, administration, and end-user information) in PDF format.

Symposium Call Center Server Software CDs are used for installation, configuration, reinstallation, reconfiguration, and updates to software drivers if necessary. The channel partner or customer must supply the operating system and server setup CDs along with the server and client PCs.

Symposium Call Center Server Capacity Tool Software assists you in performing capacity planning/engineering of the Symposium Call Center Server solution.

Symposium Call Center Server Software Keycode governs the software features and capabilities installed on the Symposium Call Center Server. The software keycode is encrypted with the serial number of the switch to which it connects so that only one Symposium Call Center Server can be connected to a specific switch at any time.

Emergency Repair Disk(s) holds the configuration data for Windows 2000. At each stage, or at the end of a Symposium Call Center Server installation, the installer updates this disk so that it contains the latest configuration information.

Symposium Call Center Server software and SU/PEP installation

After installing the Symposium Call Center Server software, you must install the latest Service Update (SU) and PEPs (if there are any) from either the supplementary CD-ROM or the Meridian PEP Library Web site. Installation of the most recent SU/PEP level available ensures that the customer will not experience any product defects unnecessarily.

Power connections and peripherals

At this stage, installers connect all the power components and peripherals, including the SVGA monitor, keyboard, mouse, and external modem.

Windows 2000 configuration

Installers power up the server to complete the configuration of the server's computer and workgroup names, CLAN and ELAN IP addresses, and the two remote access IP addresses. They then test CLAN and ELAN connectivity and verify isolation of the two LANs from each other.

ACCESS link and voice ports

If your customer will use "Open voice session" or "Give controlled broadcast announcement" capabilities in the Symposium Call Center Server call scripts, then you must establish the ACCESS link between the Symposium Call Center Server and Meridian Mail/CallPilot and configure the ACCESS Voice Ports.

PC client software

Prior to installing the PC client software, you must identify any conflicting software applications and remove them by comparing the desktop inventory for each PC client to the list of prerequisite/conflicting software applications identified in the Symposium Call Center Server *Distributor Technical Reference* document, which is available on the Partner Information Center Web site (PIC).

If any PC clients will be running Crystal Reports Professional 8.5 (or later) software for report generation/customization, you must install the Crystal Reports software prior to installing the Symposium Call Center Server PC client software.

Once the conflicting applications have been removed and any installations of Crystal Reports software have been completed, you can install the PC Client software from the Nortel Networks Client Application CD. During this part of the installation, use the "verify option" to alleviate any potential corruption problems.

Full backup

Once the server has been installed, you must perform a full backup from the Symposium Client PC to preserve the current configuration data. You must also update the emergency repair disk to ensure that this information is current in the event of an emergency.

	Installation checklist	Date completed	Signature
	Item	**Response**	**Signature**
1	Installation checklists are provided in the following Nortel Networks NTPs: ■ *Symposium Call Center Server Installation and Maintenance Guide* – installation step checklist, pre-installation requirements, operating system installation and configuration, client and server software installation, conversion procedures, and backup and restore procedures ■ *Symposium Call Center Server Symposium, M1/ CSE 1000, and Voice Processing Guide* – checklists for configuring the switch and for migrating your voice services system from Meridian Mail to CallPilot **Verify that you have retrieved and read the appropriate installation checklists.**	Yes/No	

Preparing the database

Without an accurate database, the customer's contact center cannot operate as specified and the customer cannot achieve the desired business goals. Database errors can be costly and time-consuming. They can also lead to a lasting bad impression from which recovery can be long and expensive.

If the database is inaccurately programmed, the Symposium Call Center Server system cannot perform to meet the customer's requirements. Database inaccuracies can cost the customer substantial revenue and loss of valued customers and business.

There are two stages in preparing the database: installing the database on the server, and inputting the contact center customer configuration data into the database. Typically, the Distributor Technician is responsible for properly installing the database onto the correct database partitions on the server, and the System Application Managers are responsible for inputting the customer contact center configuration data into the database.

Required skills and knowledge

Staff involved with the Symposium Call Center Server database preparation and entry must have skills in the following areas:

Technicians

- experience installing the Windows 2000 operating system and partitioning the disk drives
- experience installing the Symposium Call Center Server software, including the Sybase database
- experience with the Symposium Call Center Server traditional client software interface, as well as the Symposium Call Center Web Client interface
- experience configuring the Nortel Networks Meridian Mail or CallPilot product
- experience configuring Nortel Networks Meridian 1/CSE 1000 switch products
- experience with or knowledge of Meridian 1/CSE 1000 software
- troubleshooting skills

Additionally, technicians must have already attended the following courses and all required prerequisite courses offered by Global Knowledge:

- Symposium Call Center Server Installation and Maintenance
- Symposium Call Center Server Client Administration and Management
- Symposium Web Client with Symposium Call Center Server Installation and Maintenance

System Application Managers

- use of Nortel Networks User Guides to locate information
- use of Windows 95/98/2000/NT/XP

- experience with the Symposium Call Center Server traditional client software interface, as well as the Symposium Web Client interface
- ability to identify and use ACD telephone features
- Symposium call scripting skills
- ability to distinguish and identify key features of analog, digital, voice over IP terminals
- ability to describe the function and location of various system equipment
- ability to identify the equipment required to build a system that meets customer requirements
- ability to describe the function and operation of commonly used features and services
- ability to identify Directory Numbers (DNs) and Terminal Numbers (TNs)
- knowledge of how ACD and Symposium Call Center Server work
- ability to recognize client/server architecture and networking

Additionally, the System Application Managers must have already attended the following courses and all required prerequisite courses offered by Global Knowledge:

- Symposium Call Center Server Client Administration and Management
- Bridging the Gap between Symposium Call Center Server and Symposium Call Center Web Client for Administrators and Supervisors
- Symposium Call Center Server Scripting I
- Symposium Call Center Server Scripting II

Prior to configuring the system, it is important to consult the Functional Design document, including the agent and supervisor profiles, agent skillsets and agent skillset matrix, and information determined during the final engineering. This information determines the values for the Symposium Call Center Server parameters, as well as the format and structuring of the standard reports produced by Symposium Call Center Server.

During this step in the installation, you must program the following items:

- User Access Classes that define access privileges to the system
- Call Presentation Classes that determine how calls are presented to agents
- Users (including Supervisors and Agents) and their capabilities and properties
- Threshold Classes that define skillsets, IVR ACD-DNs, and routes for real-time and historical statistics collection
- Agent Skillsets
- Meridian switch administration resources associated with the contact center server programming, including ACD-DNs, CDNs, IVR DNs, DNIS numbers, TNs, phone sets, routes, and voice ports
- real-time display configuration
- configuration and scheduling of standard management reports

After programming the data, the technician should perform a backup of this information in the event of an emergency or unforeseen problem.

The checklist on the following pages will assist the technician who installs the database, and the System Application Manager who configures the Symposium Call Center Server database:

	Configuration checklist	Date completed	Signature
	Item	**Response**	**Signature**
1	**Define Access Classes**		
	Define system administration access class, define user and assign class.	Yes/No	
	Define access classes for all desktop users, including the script administrator, senior supervisors, and so on.	Yes/No	
	Define all desktop users and assign their access class.	Yes/No	
2	**Define how real-time and historical statistics will be collected**	Yes/No	
	Define the Skillset Threshold Classes for all skillsets.	Yes/No	
	Define the IVR ACD-DN Threshold Classes.	Yes/No	
	Define Route Threshold Classes.	Yes/No	
3	**Define all skillsets**	Yes/No	
4	**Define global settings**		
	Define skillset used to handle calls not queued by the end of script execution.	Yes/No	
	Define Agent Preference to determine how agents are selected to answer a call if priorities between agents are the same.	Yes/No	

	Configuration checklist	Date completed	Signature
	Item	**Response**	**Signature**
5	**Ensure that transaction flows reflect desired reporting requirements**		
	Define the call presentation classes for each agent skill level.	Yes/No	
6	**Define Supervisors**	Yes/No	
7	**Define Agents**	Yes/No	
8	**Define the applicable Meridian switch resources**		
	DNIS	Yes/No	
	Phoneset Display	Yes/No	
	Activity Codes	Yes/No	
	CDNs	Yes/No	
	IVR ACD-DNs	Yes/No	
	Phonesets (agent/supervisor sets and voice ports)	Yes/No	
	IVR voice ports	Yes/No	
9	**Define voice files in Meridian Mail/CallPilot**	Yes/No	
10	**Set up real-time displays and reports**	Yes/No	
11	**Configure the real-time display statistics and set the refresh rate**	Yes/No	

Designing and implementing scripts

Symposium Call Center Server uses scripts to define how individual calls are handled and treated. Scripts contain instructions that determine the sequence of steps a call follows once it enters Symposium Call Center Server. These steps may include call treatment such as music or ringback, call routing based on skills, or voice processing.

Implementation of the customer's desired call treatments and call routing requires the development of customized scripts based on the transaction flow diagrams defined in the contact center's Functional Design. Research indicates that incorrect scripting is one of the leading causes of incorrect contact center operation and customer dissatisfaction. Therefore, it is important to deliver the functionality promised to the customer by developing proper scripts.

A script is similar to a software program. The scripting language allows you to test real-time contact center conditions and make decisions about individual calls regarding the type of routing or call treatment required. You can combine the commands in the scripting language in an infinite variety of ways to create a unique set of call routing and call treatment schemes based on the requirements of the individual contact center.

A script is the engine behind Symposium Call Center Server. To achieve the most efficient operation from the contact center, scripts must be designed by professional, highly skilled, and experienced contact center design specialists. Use of untrained or inexperienced staff to write the scripts will lead to an inefficient contact center at best—and at worst, a contact center that does not function at all.

If the appropriate skills and knowledge required to perform this activity are not available in your organization, Nortel Networks highly recommends that you engage Nortel Networks Customer Contact and Self Service Solutions – Professional Services Organization (PSO) to perform all scripting activities. In Asia Pacific, contact your local channel account manager for services available in your region.

Required skills and knowledge

Those who write scripts for a contact center should have skills in the following areas:

- experience with the Symposium Call Center Server traditional client interface, as well as the Symposium Call Center Web Client interface
- experience with Nortel Networks Meridian Mail/CallPilot products
- experience with Nortel Networks Meridian 1/CSE 1000 switch products
- experience with or knowledge of Meridian 1/CSE 1000 software
- software programming experience OR several years of experience with CCR scripting
- detailed knowledge of contact center products and their operation
- troubleshooting skills

Additionally, they should already have attended the following courses and all required prerequisite courses offered by Global Knowledge:

- Symposium Call Center Server Installation and Maintenance
- Bridging the Gap between Symposium Call Center Server and Symposium Call Center Web Client for Administrators and Supervisors
- Symposium Call Center Server Scripting I
- Symposium Call Center Server Scripting II

Script types

There are three levels of scripts for Symposium Call Center Server—Master scripts, primary scripts, and secondary scripts. The Master script is the single point of entry for every call. There is one Master script per system, and it cannot be deactivated or deleted; however, it can be modified to meet the needs of the contact center. A Master script invokes additional scripts as required to provide the desired routing and call treatments. Scripts invoked by the Master script are called primary scripts. Scripts invoked by primary scripts—but not by the Master script—are called secondary scripts.

The scripting process

You can find the S*ymposium Call Center Server Scripting Guide* on the Nortel Networks Web site (www.nortelnetworks.com). In addition to providing an overview of the functionality of contact center scripts, this guide

- explains the scripting process in detail
- provides processes for the creation, validation, activation and deletion of contact center scripts
- gives a detailed description of the building blocks that make up scripts and how to use them
- provides tips for developing good scripts

The following sections provide an overview of the scripting process.

Determine the objective

The scriptwriter must clearly understand what the script is intended to do and why. If the script requirements are not fully understood, there is a risk that the script will be programmed incorrectly, leading to operational problems in the contact center and customer dissatisfaction.

Scriptwriters must not make any assumptions if they are unsure about any aspects of the script requirements. They should take the time to clarify the objectives of the script to save time and money down the road by alleviating the effort required to rework or rewrite incorrect scripts.

Gather a list of resources

The scriptwriter must understand the resources available in the contact center because these resources are the attributes that characterize the contact center. Resources include items such as

- CDNs
- routes
- agents/skillsets
- DNs
- call treatments
- contact center hours and holidays
- other parameters programmed into the system

The scriptwriter should review the contact center Functional Design document and the parameters already programmed in the server to gather the list of resources that can be used in the script.

Review the transaction flow diagram

The operation of the script should be outlined in the transaction flow diagram that was defined during the Functional Design stage. (If you did not create one at that time, then you must develop a transaction flow diagram now.) The scriptwriter should review the transaction flow diagram to ensure that it reflects the operation of the script, making any necessary changes and generating a new transaction flow diagram.

Compose the script

Break the tasks to be performed by the script into functional modules to make scriptwriting easier and more manageable. Each functional block of the script can then be composed individually. Typically, the scriptwriter composes the script in a language that is half English and half scripting language—or pseudo-code. The scriptwriter writes the actual detailed scripting code later in the process.

The scriptwriter must consider what the caller will hear. For example, bursts of ringback tone interspersed with music will annoy the caller, whereas ringback tone immediately followed by busy/overflow tone will make the caller think something has gone wrong.

Define variables

Any changing conditions that must be considered or handled by the script can be managed through the use of variables. The scriptwriter must identify the conditions requiring variables that have not previously been defined for scripting in the system, and then identify the initial values for them.

Define changes to the master script

The scriptwriter must define the changes that need to be made to the Master script to invoke a new primary script or remove an old one if necessary.

Write the primary and secondary scripts

The scriptwriter translates the pseudo-code of the script(s) to the Symposium Call Center Server scripting language using the variables and other available resources. To ensure readability and future support, the scriptwriter should include detailed comments relating to what the script is trying to achieve, when the script was implemented or changed, and the scriptwriter's name.

Review the script

Another experienced scriptwriter should review a script to determine if there are any logic deficiencies or errors. Sometimes a fresh pair of eyes is all it takes to find a problem before it happens.

Validate, correct, and revalidate the script

Once the script has been reviewed, the scriptwriter must validate it to make sure there are no errors in syntax. If validation is successful, an executable version of the script is produced. If errors are found during the validation process, they must be corrected and the script must be revalidated. This process of "correct and validate" must be repeated until the script meets all the application requirements and is fully functional.

Activate the script

Once the script has been validated and is fully functional, you can activate it in the contact center. Nortel Networks suggests that you activate a script against a test CDN first, to ensure that the call flow works correctly before activating the script against a production CDN. If you activate the script against a live CDN, Nortel Networks highly recommends that you activate the script after hours, on weekends, or during non-peak periods. This process should also be documented in the Script Change Control Procedure and agreed to by the channel partner and the customer. See the section on Script Change Control within the Managing Change Control section for more information.

Test the script

You must test the script once it has been activated to ensure that its behavior in the contact center meets the original application requirements and that the other aspects of the contact center operation are not negatively impacted. At a minimum, you should execute a standard functionality/sanity test plan to ensure the basic functionality of the system. Based on the nature of the script change, you can devise additional tests. For a more complete description of a functionality/sanity test plan, refer to the section called "Managing change control" on page 139.

Document all script changes

A change control process to manage script modifications is vital to the ongoing integrity and successful operation of any contact center. No matter how small, every script change should follow the script change control process. Simple

script changes made without careful consideration can cause an entire system to fail. For more detailed information, refer to the section on the script change control process within the section “Managing change control” on page 139.

Scripting tips

A detailed list of tips to help a scriptwriter develop robust and easy-to-understand scripts is provided in the *Symposium Call Center Server Scripting Guide*. The following list provides highlights of those scripting tips:

- Keep it simple and easy to understand. Avoid complex statements.
- Use positive logic in the scripting statements for readability.

  Example: Use statements such as “If day of week = Monday..Friday” rather than “If day of week <> Saturday, Sunday”
- Use comments as much as possible to explain what the script is trying to achieve.
- Use appropriate indentation and blank lines to indicate and separate functional blocks. This improves the readability of the script.
- Plan tones carefully and think about what the caller will hear.
- Do not start a Master script with “Give Ringback” unless the primary or secondary scripts never give any other tones to calls.
- Do as little as possible queuing, removing, and requeuing of calls in scripts to minimize the performance impact on the contact center.
- Plan the script operation to align with the desired reporting scheme.
- Carefully plan where to use voice sessions, broadcast announcements, and other services because their position may impact reported service levels.
- In a loop, ensure that the call is still queued to the skillset and that there are agents logged on to the skillset (Symposium Call Center Server does not perform an automatic check, because the call never reaches the end of the script). Use the “IF NOT QUEUED THEN IF OUT OF SERVICE” command in loops to ensure calls are still queued.
- Do not place statements in the script after a script statement that will terminate a call. These statements will never be executed and will create confusion.

Defining the management reports

Symposium Call Center Server comes with a number of standard reports and provides the ability, through programs like Crystal Reports, to program customized reports.

Knowledge of and experience with Nortel Networks Symposium Call Center Server, Meridian 1/CSE 1000, and Messaging products—as well as Microsoft Windows 2000—will help you make the most of the Symposium Call Center Server reporting and real-time display features. Analytical skills, an understanding of contact center concepts, and a knowledge of the customer's contact center requirements will also be helpful.

If you are dissatisfied with the layout and content of the standard reports, you can change the arrangement of the fields or remove fields and add new ones. To do so, you need the skills listed above, as well as familiarity with the following products, standards and concepts:

- Crystal Reports
- Structured Query Language (SQL)
- Database management and administration

Expert users can create new reports by manipulating the statistics in the tables. They can also change formulas used to calculate statistics. However, to do so, they must have knowledge of Open Database Connectivity (ODBC), as well as the skills listed above.

You can create three types of reports:

- **Standard Reports** are predefined by the Symposium Call Center Server system. They cannot be scheduled, but you can run them as required. You can modify the report data range and data type when you generate the reports (for example, date and time ranges or parameters and collection frequency, such as interval, daily, weekly, or monthly views), and you can modify output options. Selection criteria and other report details are fixed.
- **User-Defined Reports** are generated by duplicating a standard report template. You can then define date and time parameters, collection frequency (interval, daily, and so on), filter the selection criteria for the key fields, and schedule and select the output options.

- **User-Created Reports** are customized reports created using Crystal Reports or any other ODBC- or SQL-compliant report writer. Only reports created with Crystal Reports can be imported into Symposium Call Center Server. Imported reports allow a user to schedule reports and make modifications to the data range and output option information.

If the customer needs custom reports but does not have the programming staff to define and program the required reports, Nortel Networks Customer Contact and Self Service Solutions – Professional Services Organization (PSO) can provide assistance. For a consultation and a price quote, contact the PSO group by e-mail at rpqadm@nortelnetworks.com, or by telephone at 1-800-4Nortel and use Express Routing Code (ERC) 1146. In Asia Pacific, contact your local channel account manager for services available in your region.

Managing change control

Managing Change Control Procedures (MCCPs) are very important to the health and upkeep of the Symposium contact center, post-installation. These practices ensure that a client's business needs and modifications are met in a highly organized, regimented, and consistent fashion. The goal of these practices is to provide changes and modifications on an ongoing basis with little or no service disruption. Deployment of Managing Change Control Procedures can also significantly lower problem rates, and any issues arising during day-to-day operation can be resolved more quickly. For maximum benefit, these procedures should be designed with a strong adherence policy similar to those used in IT/ data center departments.

The following processes significantly reduce operational issues and, therefore, are considered to be best practices for Symposium Call Center Server contact centers. Implementation of these processes will alleviate problems during day-to-day operation, facilitate the contact center support process, and ensure the robustness of the contact center's business processes.

Site diagram/map

A site diagram/map should be available in the switch room and at the telecom supervisor's desk. This diagram should identify the key components of the system, including items such as the location of IP addresses, CDNs, ACD DNs, and extremely important or critical components of the contact center (for example, emergency phones that must be logged on or the DN to which the IVR system transfers Symposium Call Center Server calls).

The site diagram must be kept up-to-date because it serves as a reference point for the whole system to ensure that changes made to one area of the system do not inadvertently affect other components. For example, the site/diagram map can be consulted to ensure that making a change to a subnet for a group of clients will not prevent their access to the real-time displays.

Site logbook/printouts

A site logbook should be maintained to document activities performed on any area of the system. The site logbook is generally kept in the switch room, and all changes/adjustments made to the system are documented in it along with the name of the person making the change. Printouts of changes/adjustments to Symposium Call Center Server, such as agent changes and set changes, should also be maintained as a point of record.

The site logbook and accompanying printouts are very useful in helping to determine changes that were made to the system prior to problem manifestation. For example, when one contact center appeared to be crashing randomly, examination of the site logbook revealed that the system generally crashed after someone had been in the switch room. Further investigation revealed that a loose ground wire was losing contact due to vibration whenever someone entered the room.

Transaction flow diagrams

Detailed transaction flow diagrams must be available in the switch room for reference when designing changes/adjustments to the system, and when troubleshooting problems. These diagrams should identify all the transaction flows in the system, including those using a third-party controller, and must be rigorously kept up-to-date. Lack of detailed transaction flow information or out-of-date information can seriously impact problem diagnosis and resolution efforts.

Functionality/sanity test plan

You must develop a suite of tests for the major functions of the system and document them so that the basic functionality and sanity of the contact center can be tested when you make changes/adjustments or when problems arise. The test suite should cover the business-critical and heavily used components of the system. For example, a contact center relying extensively on a specific Symposium Call Center Server application for reporting, billing, and revenue-generation should ensure that a test for this functionality is included in the functionality/sanity test plan.

It is important to execute the test plan to verify that the business-critical and key components of the system are operational, and that the basic functionality/sanity of the system is sound after making script changes or any other minor modifications to the contact center. The test plan should be short enough that you can execute it fairly quickly to ensure the integrity of the contact center's business processes. Moreover, both you and the customer should agree to—and approve—the plan.

The test plan should contain the following elements:

- a purpose statement that outlines the purpose for the document and identifies when the tests will be executed
- a system overview section that provides a high-level description of the system and the functionality to be tested and preserved. This section can also include a system architecture diagram.
- a description of the tests for each functional area, along with the expected results, which can be expressed using a transaction flow diagram
- a failure recovery or troubleshooting section that identifies potential failure symptoms for each of the functional areas, the impact of the failure, and the intervention/corrective action to be taken

Script change control process

Scripts should be viewed as the engine behind the contact center. A change control process to manage script modifications is vital to the ongoing integrity and successful operation of any contact center. No matter how small or simple, every script change should follow the agreed-upon script change control process. Even cases of simple script changes (for example, turning a variable on or off) made without careful consideration can cause an entire system to fail.

The channel partner and customer should jointly agree upon and document a process that outlines

- when script changes will be permitted (after hours, weekends, during non-peak hours, and so on).
- who is permitted to make scripting changes (only qualified, trained personnel must be given this task)
- who will review/approve the changes before they are implemented (This role should be handled by qualified, trained personnel who understand the contact center architecture and scripting, and can identify the impacts of potential script changes.)
- how the script changes will be documented (The minimum documentation required for each script change should be a detailed comment in the script itself, identifying who made the change, when it was made, and why.)
- how script modifications will be tested (After every script change, the functionality/sanity test plan should be executed to ensure the basic functionality of the system; and, depending on the nature of the script change, additional tests can be devised.)
- what contingency plans will be invoked if the new scripts fail to operate in the desired manner

Meridian Mail/CallPilot change control process

Meridian Mail/CallPilot components are an integral part of most Symposium Call Center Server solutions. A change to the prompts on Meridian Mail/CallPilot can dramatically impact system operation. Therefore, Nortel Networks recommends that the channel partner and customer jointly agree upon and document a process that outlines

- when Meridian Mail/CallPilot changes will be permitted (after hours, weekends, during non-peak hours, and so on). Voice prompts and voice services must be backed up prior to making any changes so that, in the event of a failure, they can be easily restored.
- who is permitted to make the changes (qualified, trained personnel only)
- who will review/approve the changes before they are implemented (This role should be given only to qualified trained personnel who understand the contact center architecture and can identify the impacts of potential changes.)

- how the changes will be documented
- how the modifications will be tested (After every change, the functionality/sanity test plan should be executed to ensure the basic functionality of the system. Based on the nature of the change, additional tests can be devised.)
- what contingency plans will be invoked if the system fails to operate in the desired manner

Backup strategy

Your backup strategy is a critical part of your disaster recovery program. Backups minimize the data loss resulting from catastrophic failure. Your backup strategy can include the following types of backups:

- full backup
- database backup
- RAID

When to use a full backup

A full backup allows you to restore the server to its state at the time of the backup. It is useful for recovery from a catastrophic failure in the server's disk subsystem. In combination with a current database backup, a full backup can help you minimize your data loss. A full backup is performed while the server is offline. You should create a full backup

- after installation and configuration of a new server
- before and after a major conversion of the server (for example, from Release 3.0 to Release 4.2)
- before and after any major hardware upgrades (such as a disk expansion, BIOS upgrade, or platform migration)

ATTENTION

To create a full backup, you must use a third-party backup utility. For information on preparing for a third-party backup, see "Using a third-party backup utility to create full backups" in the *Symposium Call Center Server Installation and Maintenance Guide*.

When to use a database backup

Nortel Networks recommends performing a daily database backup using the Symposium Call Center Server backup utility. Use multiple backup tapes on a rotation basis, with tapes being rotated off-site for protection in the event of a catastrophic disaster.

A database backup is performed while the server is online. In conjunction with a Platform Recovery disk (see "Creating a Platform Recovery Disk" in the *Symposium Call Center Server Installation and Maintenance Guide*), a database backup allows you to restore all system data (scripts and statistics) after a crash.

You have two options where to direct your database backup:

- a remote directory on a network computer
- a tape in a local tape drive

Note: To back up data on the client, you must provide separate software and hardware.

If your server is equipped with a mirrored Redundant Array of Independent Disks (RAID) system, then recovery from a single drive failure does not require a database backup. However, you should still continue to perform daily backups.

When to use a RAID backup

RAID backups are recommended for platforms with hot-swap disk configurations. They provide a fast mechanism for backing up and restoring your system. Used in conjunction with a database backup, a RAID backup allows you to restore your system to its condition preceding a crash.

The Symposium Call Center Server backup utility backs up the server database. You need a database backup to recover from database corruption, or to perform a conversion or migration on your server. (The backup utility is not intended to restore individual pieces of information or files that were deleted by accident.)

Daily maintenance and database backups

The daily maintenance process consolidates statistics. It runs on the server at midnight and takes several hours, depending on the system configuration. Frequent delays occur if you schedule a backup at the same time as the daily maintenance process. The server puts the backup on hold until the maintenance process is completed. The delay is logged in the backup log file, and it has no impact on the system or backup.

Backup best practices

To help you recover your database in the case of a system failure, follow these guidelines to ensure that you always have an up-to-date backup of your database files:

- **Create a new Platform Recovery Disk** after you have expanded your database using the Database Expansion Utility, restored your database, and each time you change any of the following information on the server.
  - **Customer Information –** If you change your customer name or company name, you must create a new Platform Recovery Disk.
  - **Keycode Information** – If you enter a new serial number (or dongle number for DMS/MSL-100 systems) and keycode when upgrading the server software, you must create a new Platform Recovery Disk.
  - **DMS/MSL-100/M1/CSE 1000 Switch Information** – If you update switch information, such as the switch name, IP address, and customer number, you must create a new Platform Recovery Disk.
  - **ELAN/CLAN IP Addresses** – If you update the ELAN or CLAN IP address of the server, you must create a new Platform Recovery Disk.
  - **Voice Connection** – If you update the connection to the voice processing system (Meridian Mail or CallPilot), you must create a new Platform Recovery Disk.
  - **RSM IP Address** – If you update the Real-Time Statistics Multicast (RSM) IP address of the server, you must create a new Platform Recovery Disk.
  - **Site Name** – If you change the site name for Symposium Call Center Server, you must create a new Platform Recovery Disk.
- **Perform daily database backups** For more information on setting up database backups, see “Setting up backup options” in the *Symposium Call Center Server Installation and Maintenance Guide*.

Pros and cons of tape backups and remote directory backups

Pros	Cons
Tape backups	
■ not affected by network instability ■ no dependency on low network traffic	■ requires maintenance of tape drive and tapes ■ possibility of mechanical failure of tapes and drives ■ backup data is readable only by Sybase backup server; cannot be read by Windows backup utility ■ for technical support, tapes must be handed off or shipped; data cannot be transmitted electronically
Remote directory backups	
■ for technical support, backup data can be transmitted electronically ■ backup data files can be recognized by the Windows file system ■ low maintenance and not prone to mechanical failure	■ requires a stable network ■ must be scheduled when network traffic is low ■ requires an archiving plan for backup files after each backup to ensure the files are not overwritten

Upgrade Test Plan

As with all changes to critical or major components of the contact center, a software upgrade requires planning and consideration before it is executed. The Upgrade Test Plan should be jointly agreed upon, documented, and approved by both the channel partner and the customer.

This document ensures that there is

- a solid, agreed-upon plan in place for performing the upgrade
- a mechanism in place to verify the system's integrity after the upgrade
- a contingency plan in place if the upgrade fails

The Upgrade Test Plan should describe

- what the upgrade will consist of (Symposium Call Center Server, Meridian Mail/CallPilot, hardware, software, and so on)
- when the upgrade will take place (date and time)
- the impact of the upgrade and a determination of the communication given to users
- who will perform the upgrade (only qualified, trained personnel)
- the backups that will be required before performing the upgrade
- the order in which tasks will be performed during the upgrade
- the tests that will be executed to ensure the upgrade's success (generally, the tests identified are an enhanced version of those in the Functionality Test Plan)
- the contingency plans that will be invoked if the system fails to operate in the desired manner

For more information about upgrades, see the section on Performing Upgrades within the section "Assuring ongoing support and maintenance" on page 151. The Appendix contains sample Upgrade Testing checklists that may be used for system testing and script validation.

Handing off to the customer

Hand-off of the completed installation to the customer through a Transition Plan is a very important part of a system implementation because it brings closure to the installation of the system. It also outlines the post-implementation responsibilities of personnel and the timeframes in which those responsibilities are to be executed. Focus on this area assists with a smooth transition period and effective fine-tuning of the system parameters to best meet the customer's business needs.

The four activities needed to finalize and successfully hand off the system to the customer include

- reviewing all information and processes
- developing a transition package
- holding a transition meeting
- executing a final sign-off by the customer

A smooth transition from an installation/project environment to the maintenance and follow-on service phases can mean the difference between a successful installation with high customer satisfaction and an uncomfortable operation with poor customer satisfaction. Therefore, the Transition Plan has two prime objectives that must be part of the installation:

- Ensure that the customer and all appropriate technical personnel are fully informed about the new system, maintenance, escalation, and service procedures and contacts.
- Ensure that at cutover, all critical project and site information is captured, recorded, and stored to provide a snapshot of the system at cutover.

Transition plan

Step one

Review the following aspects of the project to determine the readiness to transition from installation to the maintenance phase:

- project status
- issues that will remain outstanding after cutover
- unique site requirements
- identification of maintenance personnel assigned to the customer account
- identification of responsibilities after the transition for you and your customer
- lessons learned from the installation (in general and specific to the customer)
- status of preparation of project and site documentation
- readiness of written maintenance, escalation, and transition procedures
- readiness of the customer transition package

Step two

Prepare the transition package. It should include, but not be limited to, the following items:

- an overview/introduction to the technical maintenance organization
- maintenance procedures
- routine and emergency repair procedures

- escalation procedures
- key contact names and telephone numbers
- follow-on sales process for moves, adds, changes, upgrades, and script changes
- explanation of training options or where the information can be located

Step three

Conduct a transition meeting to discuss and provide the following items:

- project status
- issues that will remain outstanding after cutover
- unique site requirements
- introduction of the technical maintenance personnel assigned to the customer
- explanation of maintenance routines (for example, backup procedures), escalation, and transition procedures with applicable documentation
- explanations of responsibilities for you and your customer
- explanation of what will happen to the project and site documentation
- security procedures and access
- discussion of customer's concerns
- discussion of lessons learned from the installation
- explanation of training options and where the information can be located
- all on-site documentation and software turned over to the customer for safekeeping

Step four

Present the customer with a document for signature of acceptance.

Sample transaction checklist

Document	Availability date	Signature of recipient
Original customer Statement of Work		
Customer's response to Statement of Work		
Contract with signatures		
Copies of contract deliverables		
Installation inventory		
Block diagram of system configuration/site map		
Summary of server growth capacity		
Database and scripting records		
Transaction flow diagrams		
Outline of responsibilities after transition		
Cabling diagram		
Completed system audit		
Notice of completed cutover		
Executed and signed Acceptance Test Plan		
Signed customer acceptance		
Copy of transition package given to customer		
Punch list of outstanding issues		

Refer to the Critical Proposal and Ongoing Support Checklist in the Appendix of this workbook for more information.

Assuring ongoing support and maintenance

Performance upgrades

Once the installation and customer handoff has been accomplished, the ongoing customer relationship begins. It is essential that maintenance routines, replacement parts, and upgrade planning are in place.

Repairs

Repair policies for Symposium Call Center Server fall within the current guidelines for other Nortel Networks products. Refer to the Nortel Networks *Product Catalog* for detailed information.

Spare part list

A decision must be made about spare parts inventory. The manner in which you manage your parts and equipment inventory can impact your ability to honor commitments to customers. You must determine how to handle inventory—through in-stock inventory or "just in time" inventory through Nortel Networks.

Performing upgrades/conversions

Nortel Networks recognizes that upgrades, or conversions, can be one of the more difficult aspects of service performance. Successful conversions require not only technical readiness and preparation, but business and process preparation and readiness as well. As with most things business-related issues, conversions are about managing risk. Being able to identify risk points is the key to risk containment. Conversions typically fail due to a lack of preparation or inability to understand all of the details, end to end. The checklist on the following pages has been devised to help identify the touchpoints related to a Symposium Call Center Server conversion.

Conversion overview

A conversion from Symposium Call Center Server Release 3.0 or 4.0 to 4.2 involves a series of procedures you must complete before the Release 4.2 server is ready for service. At a high level, the conversion has four main steps:

1. preparing for conversion, which involves preparing yourself and the site prior to the conversion date
2. collecting information from the original server, which includes creating a database backup and a Platform Recovery Disk

3. configuring the new server or reconfiguring the existing server as a Release 4.2 PVI server, which involves installing and configuring the Windows 2000 Server operating system and partitioning the drives according to PVI requirements
4. installing and configuring Release 4.2 of Symposium Call Center Server on the new or reconfigured server, which also involves importing database information from the Platform Recover Disk and restoring the database.

Each step involves a series of procedures, which are outlined in the conversion checklist. You can find step-by-step instructions for performing each procedure in the *Symposium Call Center Server Installation and Maintenance Guide*.

Note: The checklist contains the steps you must perform to prepare for and complete a conversion. The order in which you complete certain steps is critical, so do not change the order of the steps unless the instructions in the *Symposium Call Center Server Installation and Maintenance Guide* provide you with that option.

Symposium Call Center Server conversion checklist

Step	Item	Date completed
	Preparing for conversion	
1	Read the section “Overview of conversion” in the *Symposium Call Center Server Installation and Maintenance Guide*.	
2	Check for Installation Addenda on the Nortel Networks Web site or the Partner Information Center Web site.	
3	Make sure you have the required Windows 2000 Server knowledge and documentation.	
4	Gather the materials required for conversion.	
5	Upgrade any Release 3.0 client PCs to Release 4.0 software.	

Symposium Call Center Server conversion checklist

Step	Item	Date completed
6	Upgrade your Release 3.0 scripts (when converting from Release 3.0 only).	
7	Investigate and resolve any tape drive compatibility issues.	
	Collecting information from the original server	
8	Install the latest Service Update pack and any required PEPs on the original server. **Note:** If you are converting within the same server and your server is equipped with RAID drives, then you have the option of splitting the RAID drives before installing the latest Service Update pack or PEP (instead of splitting the drives in Step 14 when you are configuring the operating system and drives on the server). If you choose to split the RAID drives now, then you must continue from Step 8 onward after you are finished.	
9	Perform a database integrity check on the original server.	
10	Create a Platform Recovery Disk on the original server.	
11	Create a backup of the original server's database.	
12	Check the disk partition configuration on the original server.	

Symposium Call Center Server conversion checklist

Step	Item	Date completed
13	Check the RAM size on the original server. **Note:** If you are converting a Network Control Center (NCC) server, Nortel Networks recommends that you write down the IP addresses of all the sites in the network before proceeding with the remaining steps. After you finish the conversion process on the NCC, this list of IP addresses enables you to re-add the network sites more efficiently. On the original NCC, open the Nbconfig utility and use the Site table tab to view and note the list of IP addresses.	
	Preparing the new server or reconfiguring the existing server	
14	Configure the operating system and drives on the new or reconfigured server.	
15	Install pcAnywhere on the new server.	
	Completing the conversion	
16	Perform a platform compliance check on the new server.	
17	Install the Symposium Call Center Server software on the new server.	
18	Apply the latest Install-time PEPs on the new server.	
19	Import database information from the Platform Recovery Disk.	
20	Install the Symposium Call Center Server database software on the new server.	
21	Restore the original server's database to the new server.	
22	Perform a database integrity check on the new server.	

Symposium Call Center Server conversion checklist

Step	Item	Date completed
23	Configure the new server's software and database.	
24	Apply the latest Service Update pack and any required PEPs to the new server.	
25	Prepare the server for full service.	

Problem isolation mechanism

Problem diagnosis and isolation can be difficult and time-consuming if problems caused by one system or component interferes with the operation or causes symptoms to be generated on another system or component.

One method of improving problem isolation and diagnosis is commonly referred to as using high-level operational "test points." When a problem occurs, the test points are executed to determine if key areas of the system are functioning as expected. This mechanism provides a quick, high-level method of narrowing down the areas in which the problem may be occurring.

The system test points are chosen based on unique system operation associated with specific user actions. When a problem occurs, the action required to invoke the unique operation of the test point is taken and the results are noted. Examples of some simple test points are given below:

- A CDN on Symposium Call Center Server is associated with a test script that plays a unique RAN message.
- A DN on Meridian Mail/CallPilot plays a unique greeting.
- A DN controlled by the CTI server transfers the call to a specific DN.
- The IVR system plays a unique greeting when a special DN is dialed.

In the example, calling the CDN on the Symposium Call Center Server and receiving the unique RAN message indicates that the Symposium Call Center Server is operational. Calling the DN on Meridian Mail/CallPilot and receiving the unique greeting indicates that Meridian Mail/CallPilot is functional.

Appendix

Glossary

This glossary provides acronym expansion and descriptions of terms and abbreviations that you may encounter when dealing with Symposium Call Center Server. It is a useful resource for anyone who is new to the product. The glossary does not cover technology terms within the Symposium architecture or specific development vernacular.

This glossary should not be regarded as a replacement for Customer Documentation. It is simply a quick reference guide. Further details are available in the Symposium Call Center Server user and administrator guides.

ACD	Automatic Call Distribution
ANI	Automatic Number Identification
API	Application Program Interface
CCR	Custom Call Routing
CDN	Controlled Directory Number. A CDN routes callers to available channel resources.
CLAN	Customer LAN (pronounced see-lan) is the Local Area Network set up by a customer for the data network. Typically, a CLAN already exists before Symposium Call Center Server is installed at a customer site.
CLID	Caller Line Identification
CTI	Computer-telephony integration

DN	Directory Number. Users on the system typically have a DN that is the same as their mailbox number. It is the phone number dialed by a caller who wants to reach an individual. It is mapped to a TN on the switch and, when dialed, causes the phone to ring at that TN.
DNIS	Dialed Number Identification Service
ELAN	Embedded LAN (between M1/CSE 1000 and application servers) is the network connection from the switch to the Symposium Call Center Server. It is an Ethernet LAN that is segmented from the customer's LAN (CLAN) and enables signaling and administration access to applications related to the Meridian 1/ CSE 1000 switch. A number of configurations are available to the customer, depending on whether the switch has an address on the CLAN. Irrespective of the configuration, there should be no IP traffic between the CLAN and ELAN nor any IP route established between the two LANs.
GRB	General Release Bulletin
GUI	Graphical user interface is a computer interface style used extensively throughout Nortel Networks Symposium Call Center Server system administration. A GUI makes use of windows, icons, menus, and property sheets, together with "drag and drop" tools. Access to messages is also through a GUI when using the desktop messaging clients.
IPX/SPX	Internetwork Packet Exchange/Sequenced Packet Exchange
IP	Internet Protocol is the method by which data is sent from one computer to another on the Internet. Each computer on the Internet has at least one address that uniquely identifies it from all other computers on the Internet.
IVR	Interactive Voice Response is an application that allows telephone callers to interact with a host computer via prerecorded messages and prompts.

Keycode	Each Symposium keycode determines the level of functionality installed for that customer. Some features are keycodable (for example, amount of storage, number of mailboxes, number of channels), and are programmed on a “dongle,” which must match the keycode to activate the features.
LAN	A Local Area Network is the data communications network used to link together computers and peripheral devices within the customer’s existing data network. Symposium Call Center Server contains the embedded LAN (ELAN) and the customer LAN (CLAN). Symposium Call Center Server installation does not impact the CLAN configuration; the server merely integrates into the CLAN as a stand-alone server.
MAC	Moves, adds, changes
MAT	Meridian Administration Tools provide Windows-based system management that facilitates administration of a telecom network, including multiple sites and multiple applications, such as Symposium Call Center Server and Meridian MAX.
MAX	Meridian Call Center product
MB	Megabyte, Mbyte
NIC	Network Interface Card
OA&M	Operations Administration and Maintenance is the collective term for the interfaces and functions used to operate and support a system.
ODBC	Open Database Connectivity
pcAnywhere	A product from Symantec that allows remote access to a PC whereby the local desktop mirrors the remote desktop. This is most commonly used with Symposium Call Center Server for remote server maintenance to allow technicians to log on to the server and operate the Windows 2000 server remotely.

PEP	Performance Enhancing Program is the name for a patch or Emergency Customer Solution (ECS), and is a software fix installed on a system to fix or enhance a performance problem. This is a temporary workaround until the next official software version is released.
PIC	Nortel Networks Partner Information Center
PSO	Nortel Networks Customer Contact and Self Service Solutions – Professional Services Organization
SCCS	Symposium Call Center Server
SMI	System Management Interface is the term used for the Symposium Call Center Server administration interface.
SQL	Structured Query Language
Swap file	File considered as virtual memory or an extension of memory. Windows 2000 maintains a swap file on a local hard drive of the client PC.
TAPI	Telephony Application Protocol Interface
TCP/IP	Transmission Control Protocol/Internet Protocol is a connection-oriented transport layer protocol for client/server communication.
TN	Terminal Number
WAN	A Wide Area Network may be composed entirely of private structures, but the term also connotes the inclusion of public networks and various kinds of transmission media.

Critical proposal and ongoing support checklist

Critical proposal and ongoing support checklist	

Issues	Responses
Proposal	
Who is responsible for implementation and ongoing support of host connectivity? What is the test plan for support and problem isolation?	
Who is responsible for implementation and ongoing support for the integration of third-party contact center products? What is the test plan for support and problem isolation?	
Who is responsible for implementation and ongoing support of middleware that ties the applications together? What is the test plan for support and problem isolation?	
Is a redundant system required for this mission-critical site? What is the cost? Who keeps it updated?	
What is the most that the customer can do with this current configuration before needing a major upgrade or expansion plan?	
Has the default mode of operation been tested and signed off by the customer?	
Does the customer understand that once acceptance tests are run and the current configuration and solution are accepted, the customer is responsible for ongoing support unless the customer agrees to a detailed maintenance agreement?	

Critical proposal and ongoing support checklist

Issues	Responses
Does the customer understand that hardware and software warranties are the only coverage provided during a warranty period?	
Have you prepared a detailed and itemized list of tests and sign-offs required at project completion?	
Have you provided capacity growth charts for the customer's entire solution? Switch Solution Symposium Solution Messaging Solution (Meridian Mail/CallPilot) IVR Solution Host Connectivity and Screen-Pop Solutions Web Server Solutions Multiple Node Configurations	
Proposal and ongoing support	
Have you provided clear objectives for the Contract/ Project Plan and obtained the customer's sign-off? Who is responsible for maintaining these responsibilities after they have been signed off, and at what cost?	
Ongoing support	
What is the fallback mode for mission-critical systems if the applications go offline? How long can they run in fallback mode and still keep the customer productivity operating?	
What is the monthly/yearly scheduled maintenance downtime required to keep this system running without unscheduled outages?	

Critical proposal and ongoing support checklist

Issues	Responses
What is the cost and who is responsible for new problems that arise after system testing and sign-off occur? Since the system was tested and signed off by the customer, should the customer be billed for new requirements and issues as operations or business increase?	
What tools are available for isolating problems stemming from the integration of multiple applications and platforms? What are the separate requirements for using these tools to isolate and resolve problems?	
When problems are found with the ever-changing solution, what is the cost of ongoing support from the vendor involved? Is there a charge available when you identify a problem with a third-party vendor's hardware or software to reimburse you for your diagnostic work in identifying the third-party vendor's inadequacies?	
When responsibilities have been turned over to the customer and the customer experiences attrition, how does the customer train a new individual to pick up these responsibilities? Is there a cost associated with helping the customer?	
While the customer is training a new person, what are the costs to the customer if you provide these services until the customer can take control again?	
Have you determined the additional cost to end-users for the support required for new applications or requirements that have not been qualified and tested at sign-off?	

Symposium Call Center Server and Meridian MAX feature comparison

The following information compares features for Symposium Call Center Server Release 4.2 and the Meridian Call Center MAX Release 9:

Features	Symposium Call Center Server	Meridian MAX
Architecture	Client-Server (offload user tasks to client)	MAX (all tasks processed by Server)
Windows-based	Yes (Windows 2000 client and server)	MTE 7/8 Windows-based (Terminal Emulation)
GUI Interface	Yes	No
Limit User Access down to individual objects within menus	Yes (create, edit, view, none)	Limited
Agent Status Display	Yes	Yes
Color Customization	Yes	Yes
Dial-up Supervisor	Yes (PPP connection support)	Yes
LAN-based Supervisor Workstation	Yes	Yes
Local Printing to PC	Yes, all printers supported	Yes
International Language Support	Yes	Yes
List Management	Select from Menu	Yes
Locate Agent	Can sort on First/ Last Name, and so on	Yes

Features	Symposium Call Center Server	Meridian MAX
Monitor Another Supervisor's Display	N/A (View Associated Agents)	Yes
Online Port Assignment	N/A	Yes
NAC Connectivity	N/A	Yes
Remote Printing	Yes (print to network printer)	Yes
Supervisor Messaging	N/A	Yes
Report Definition	Yes	Yes
Spectrum Definition	Yes (using a report writer)	Yes
Custom Calculations for Historical Stats	Yes (using Reports Pro)	Yes (RPN)
Export reports in multiple formats (for example, HTML, Excel, Exchange)	Yes	Data Stream (Comma delimited)
Online Help	Yes	Yes
Online Tutorials	Yes	No
Definition Naming	No Restrictions	Yes
Banner Page Control	Depends on printer settings	Yes
Number of Customers Supported on Meridian 1/CSE 1000	One	One
LAN protocols and topologies		
TCP/IP Ethernet	Yes	Yes
IPX/SPX Ethernet	Yes	No

Features	Symposium Call Center Server	Meridian MAX
Reporting		
Standard Reports	Yes	Yes (23 Standard Formats)
Standard Graphic Formats	No	Yes (Seven graph types)
System (Configuration Reports)	Yes	Yes
Custom Reports (Tabular and Graphic)	Yes (using a Report Writer)	Yes
MAXcaster	No	Yes
Third-Party Workforce Management Support	Yes	Yes
Event Reports	Yes	Yes
Agent by Activity Code Reporting	Yes	Yes
DNIS Call Treatment Reporting (for example, busies, routed, disconnected)	Yes	Yes
Seven-Digit DNIS Reporting	Yes	Yes (up to 9 digits)
Night Call Abandon Reporting	Yes	Yes
Reporting on Service Routes	Yes	No (on ISA Route)
Controlled Network Call Reporting	Yes	Yes
Sorting of Reports	Yes	No
Printing		
Print Report Definitions	Yes	No
Print Schedules	Yes	No

Features	Symposium Call Center Server	Meridian MAX
Print Agent Names on Name Log Reports	Yes (Both Agent Names and IDs)	No (Export data and apply)
Print Current Interval Reports	No	Yes
Schedule Reports to Print to Printer or File (even Excel spreadsheets and HTML files)	Yes	Data stream in ASCII format
Report Preview	Yes	Yes
Statistics		
Agent Performance Statistics	Yes	Yes
Skillset/ACD-DN Statistics	Yes	Yes
Application Statistics	Yes	N/A
CDN Statistics	Yes	Yes
DNIS Statistics	Yes	Yes
RAN/Music Statistics	Yes	Yes (No to Music Route)
IVR Q and Port Statistics	Yes	Yes
Activity Code Statistics	Yes	Yes
Route Statistics	Yes	Yes
Trunk Statistics	Yes	Yes
Network Call Statistics	Yes	Yes
Call-by-Call Statistics	Yes	No
Overflow Statistics	N/A	Yes

Features	Symposium Call Center Server	Meridian MAX
Historical database		
Ability to Combine databases	Yes (Link Databases using Crystal)	No (Exporting data to PC)
Ability to Disable/Enable Reporting on individual Statistic Groups	Yes	Limited (Trunk, Agent Activity)
ODBC Database	Yes (Sybase)	No (Unify database)
Reports Available by Interval (day, week, month)	Yes	Yes (plus shifts)
Defined Interval	15 minutes	30 minutes
Flexible Database Configuration	Yes	Yes
Online Database Reconfiguration	Yes	No
Historical Database Maintenance	Yes	Yes
Real-Time Displays		
Standard	Yes	Yes
Custom	Yes	Yes
Personal Displays	Yes	Yes
Public Displays	No (Work-around is available)	Yes
Combine statistics from different statistics groups in one display	No	No
Multiple Display Screens open at one time	Yes (4)	No (1)
Sorting by Columns	Yes	No

Features	Symposium Call Center Server	Meridian MAX
Agent Priority Displayed on Real-Time Display	No	Yes
Spare Position Hiding	N/A (PER-display Logged Agents)	Yes
Real-Time Custom Formulas	Yes (Normal Math)	Yes (RPN)
Define Display Format	Yes	Yes
Graphic Displays	No + (Individual Bar Graph field)	Yes (Bar Graph only)
Interval to Date	Yes	No
Moving 10-Minute Interval	Yes	Yes
Minimum Refresh Rate	2 seconds (0.5 for Agent display)	10 seconds (immediate for Agent)
Time in State for Agent Status	Yes	No
Number of Threshold Levels	2	1
Threshold Updates Done Immediately	Yes	After Midnight or Reboot
Number of Real-Time Statistic groups	6 (7 with Networking)	3
Agent Status by Position Display	Yes	Yes
Agent Status by Skillset Display	No	Yes by ACDN
Display Longest Waiting Call Time	Yes	No
Display Expected Wait Time	Yes	No
ATB Display	Yes	No

Features	Symposium Call Center Server	Meridian MAX
Call Center Summary Display	Yes	No
IVR ACD-DN Display	Yes	Yes
Create formulas in Real-Time Displays	Yes	Yes
Two customized views of same display open at same time	Yes	No
Configuration control		
Agent Reassignments (Priority)	Yes	Yes (plus Queues)
Agent Reassignments to Supervisors	Yes	Yes
Scheduled or Ad hoc changes	Yes	Yes
Queue Option and parameter changes	Script Controlled	Yes
CDN programming changes	No	Yes
Print Assignments	Yes	No
Routing Tables (Day/Night)	No	Yes
Overflow, Interflow, and Night Call Forward Targets	Script Controlled	Yes
Third-party interfaces		
Real-Time Adherence	Yes (TCP/IP or IPX)	Yes (MEI - TCP/IP)
Wall Boards	Yes (TCP/IP or IPX)	Yes (MEI or screen scrapes)
Scheduling	Yes (TCP/IP or IPX)	Yes (Printer Port)

Features	Symposium Call Center Server	Meridian MAX
Network Level Routing	Yes (TCP/IP or IPX)	Yes (MSI, MEI, - TCP/IP)
Meridian Link Services	Yes (TCP/IP or IPX)	N/A
System capacity		
Number of Active Agents—live and automated	1500 Release 4.2	1200 (SNN) or 200 (IPE)
Number of Supervisor Workstations	100 Sessions	60 (SNN) or 20 (IPE)
Number of Printers	Supported by Clients	28 (SNN) or 12 (IPE)
Number of Busy-Hour Calls (Simple calls)	Depends on configuration	Up to 18 000 (SNN) or 10 000 (IPE)
Number of Third-Party Interfaces	Part of 100 Supervisor Sessions	5 (3 MEI, 1 Network, 1 MSI)
Customer Database Size	As per minimum PVI requirements	460 Mbytes (SNN) or 250 Mbytes (IPEE)
Processor	As per minimum PVI requirements	68060 (SNN-E)
RAM	As per minimum PVI requirements	64 Mbytes (SNN-E)
Maintenance and diagnostics		
Print Monitor	(Windows 2000 function)	Yes
Diagnostic Modem	Yes (28.8 K)	Yes (9600 Baud)
Print Error Logs	Yes	Yes

Symposium and Meridian MAX/CCR comparison

Features	Symposium Call Center Server	Meridian MAX/CCR
Agent IDs	16 digits	4 digits
Agents can only log on with defined IDs	Yes	No
Activity Codes	32 digits	4 digits
Queuing to an Agent ID	Yes	In X11 R23B
Return To Queue	Yes	In X11 R23B
Call Presentation Options (Call Forcing, ACAA, and so on)	Agent-defined	ACD-DN Defined or MQA
Call Presentation determined by	Skillset Configuration of Agent	ACD-DN Position Assigned and PRI
Agent to Supervisor Assignment	Agent-defined	Position Defined or MQA
Customized Display for Agent Set	Yes	Only Predefined
Display Waiting Time of Caller	Yes	No
Display Call Waiting Key Lamp	No	Yes
Display Call Waiting Key	Reflects Symposium Call Center Server calls only	Only when calls default
DWC key for Supervisor Set	No	Yes
Agent Priority (up to 48)	Yes (Agent Defined)	Yes (Position defined or with MQA)
Standby Mode for Skillsets	Yes	No

Features	Symposium Call Center Server	Meridian MAX/CCR
Number of Skillsets/ACDNs Agent can be assigned	50 Skillsets maximum	One ACD-DN or max.5 with MQA
Number of Skillsets/ACDNs	250 + 3 Internal (CDNs not included)	240 ACD-DN/CDNs (100 on IPE)
Able to take All Trunks	Yes	No
Consider Longest Idle Agent/ Most Idle Agent for NACD calls	Yes	No
Option to answer Local over Network Calls, Network over Local	Yes	Using HPQ or OCN
Queuing commands		
Queue To Skillset	Yes	Replaces Queue To ACD
Remove From Skillset	Yes	Replaces Remove From ACD
Change Priority In Skillset	Yes	Replaces Queue To ACD With P
Queue To Agent	Yes	No
Remove From Agent	Yes	No
Change Priority In Agent	Yes	No
Call Treatment commands		
Give Ringback	Yes	Yes
Give Silence	Yes	Yes
Give Busy	Yes	Force Busy
Give Overflow	Yes	No

Features	Symposium Call Center Server	Meridian MAX/CCR
Give Music	Yes	Yes
Give RAN	Yes	Yes
Give IVR	Yes	Yes
Route Call	Changed (added Controlled Option)	Route To
Disconnect	Yes	Force Disconnect
General commands		
Quit	Yes	Yes
Execute	Yes	GOTO
Wait	Yes	Yes
Section	Yes	Yes
/*Comment*/	Yes	Yes
If...Then...Else	Changed (added Then...Else...End IF)	IF only
Log “Text”	Yes	No
Execute Script	Yes	No
Where...Equals	Yes	No
Assigned	Yes	No
Advanced commands		
Event Handler	Yes	No
Open...End...Voice Session	Yes	No
CollectDigits	Yes	No

Features	Symposium Call Center Server	Meridian MAX/CCR
Play Prompt	Yes	No
With Language	Yes	No
Give Controlled Broadcast Announcement	Yes	No
Queue To NACD	Yes	Queue To <ACDN>
Remove From NACD	Yes	Remove From <ACDN>
Change Priority In NACD To Priority	Yes	Queue To <ACDN> With Priority
Queue To Network Skillset (1.1)	Yes	No
Remove From Network Skillset	Yes	No
Change Priority In Network Skillset To Priority	Yes	No
Send Info (Host Data Exchange)	Yes	No
Send Request (Host Data Exchange)	Yes	No
Get Response (Host Data Exchange)	Yes	No
Call intrinsics		
Age of Call	Yes	Yes
Call Forward	Yes	No
Call Forward Busy	Yes	No
Call Forward Do Not Disturb	Yes	No
Call Forward No Answer	Yes	No
CDN	Yes	No

Features	Symposium Call Center Server	Meridian MAX/CCR
CLID	Yes	Yes
Conferenced	Yes	No
Dialed DN	Yes	No
Direct Call	Yes	No
DNIS	Yes	Yes
International Call	Yes	No
Loc	Yes	Yes
Network Call	Yes	No
NPA	Yes	Yes
NXX	Yes	Yes
NPANXX	Yes	Yes
On Hold	Yes	No
Queued	Yes	No
Route Number	Yes	No
Transferred	Yes	No
Skillset/agent intrinsics		
Answered Call Count	Yes	No
Average Speed of Answer	Yes	No
Expected Wait Time	Yes	No
Idle Agent	Yes	No
Idle Agent Count	Yes	Idle Agents <ACDN>
Logged Agent Count	Yes	Total Logged Agents <ACDN>

Features	Symposium Call Center Server	Meridian MAX/CCR
Logged Out Agent	Yes	No
Longest Idle Agent	Yes	No
Most Logged Agents	Yes	No
Oldest Call	Yes	Oldest Call <ACDN>
Out Of Service	Yes	Night Service <ACDN>
Position In Queue	Yes	No
Priority In Queue	Yes	No
Queued Call Count	Yes	Total Queued Calls <ACDN>
Time intrinsics		
Date	Yes	Day of Year
Day of Month	Yes	Yes
Day of Week	Yes	Yes
Month of Year	Yes	No
Time of Day	Yes	Yes
Traffic intrinsics		
Call Rate	Yes	No
Total Active Calls	Yes	No

Skill-based routing—is it what you think it is?

Skill-based routing has been an industry term for several years. Literally, skill-based routing means to route the caller based upon the skills of agents. But is this what your customers really want? Is that what they think they are getting? Customers want to route and treat callers based upon who the caller is and why he or she is calling, while also considering other dynamics, such as time of day and other traffic considerations. In conjunction with this level of sophisticated routing, customers are demanding that agents be selected to handle calls based upon their skill(s) and their level of knowledge within that skill.

These two key components, referred to as "Customer Requirements Routing" and "Skill-based Agent Selection," are what many end-user customers assume are a part of every vendor's Skill-based Routing package. However, this is not necessarily the case. To better explain this point, consider some of the methodologies used within the various vendors' Skill-based Routing packages. (**Note:** Although both Customer Requirements Routing and Skill-based Agent Selection are examined, Skill-based Agent Selection is the key differentiator for Nortel Networks.)

Start by examining the Customer Requirements Routing piece of the equation. Most sophisticated contact center vendors offer different levels of "call routing and treatment" capabilities, typically provided through the use of a scripting language. The scripting tool is what is used to define how callers will be routed and treated upon entering the contact center. Many factors can be evaluated here to determine a) who the caller is and b) why the caller is calling. These are typically things such as ANI or CLID to identify the caller and DNIS to identify why the caller is calling. However, often ANI or CLID is not available or reliable in determining the caller. Also, many customers do not—or do not want to— provide a separate DNIS number for every potential reason for calling; therefore, prompting the caller becomes essential.

More sophisticated packages, like Nortel Networks Symposium Call Center Server, offer the ability to uncover this information through the use of integrated prompting. The collected information can then be used either within the context of a script or sent to a third-party application for further evaluation. If processed simply within the context of a script, it is essential that the scripting language support a "where equals" command as well as the "If" statement to simplify

script writing. If processed by using a third-party application, it is essential that there is peer-to-peer communication to enable a meaningful exchange of information. Nortel Networks Host Data Exchange (HDX) is a direct interface into Symposium Call Center Server that can facilitate such an exchange.

In addition to the "who" and "why," other considerations must be taken into account when making decisions on how to route and treat the caller, such as the time of day, incoming/outgoing traffic, staffing, and so forth. Good contact center packages provide these basic intrinsic routing capabilities. Exceptional packages, such as Symposium Call Center Server, offer intrinsics such as Average Speed of Answer (ASA), Expected Wait Time, Position In Queue, and Logged In Agents, among others. Additionally, only the most sophisticated packages allow a customer to perform mathematical evaluations of the intrinsics for even finer tuning. For example, you may want to evaluate the call volume for a particular application and the number of agents available to handle that application. If the number of incoming calls is two times greater than the number of logged-on agents to handle that call type, you may want to play a different announcement, queue to additional resources, or route the call differently altogether.

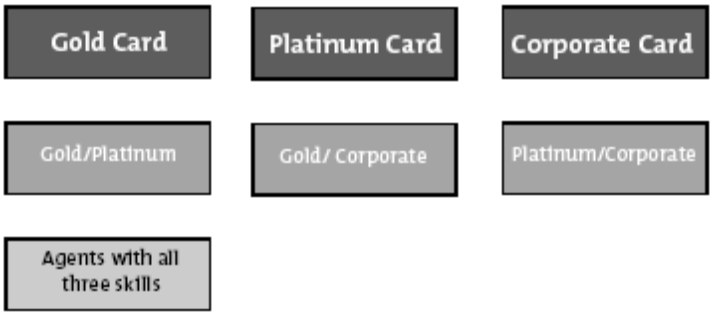
The following script example depicts the above desired call routing:

- If calls_waiting (skillset or list of skillsets) > = 2* number logged agents (skillset or list of skillsets)
- Give RAN (or Broadcast) Very, Very Busy
- Queue To Backup skillset

Now consider the Skill-based Agent Selection piece of the equation. In most contact center packages, agents are assigned to ACD groups, also called ACD DNs, Splits, Agent Groups, Gates, and so on. (**Note:** You should be aware that the marketing term "skill" groups often really refers to agent groups with parameters being assigned to the group, not the individual agents. Agents are assigned to these groups based upon skills they possess.)

Prior to packages like Symposium Call Center Server, agents were limited to belonging to one group and, therefore, in theory had one skill or group of skills. All agents within that group had to be skilled in all areas if that group was to handle more than one call type.

As an example, look at three basic skills—corporate accounts, gold cards, and platinum cards. These are completely different applications and require specialized training in each area for an agent to become proficient in handling these call types. After training, agents are placed in the agent group (for example, corporate accounts). If an agent received additional training and was then able to handle gold card accounts, he or she must then be put in a group that was a corporate/gold card group. In fact, with just these three basic skills, there are seven possible combinations, resulting in the creation of seven different agent groups.



When callers enter the contact center requiring assistance with their gold card account, they would must be queued to three different agent groups to be serviced efficiently. Obviously, this increases scriptwriting time and complexity. Furthermore, the distribution of these calls is not efficient due to the fact that a serial look is performed (that is, the first command in the script reads: Queue To Gold_Card, the second command: Queue To Gold/Corporate, and so on). This means that some groups are put in a “hot seat.” There is no even distribution.

Again, although some vendors still only offer this alternative, many vendors, such as Nortel Networks, have developed capabilities that allow agents to belong to more than one agent group, which eliminates the need to create these combination groups. For example, Agent John can be a part of the Corporate Account Group, Gold Card Group, and the Platinum Card Group, each with different assigned priority levels.

Some vendors offer similar capabilities with fewer priority levels, while others have taken a different approach altogether and built off the above described

nightmare. This means that agents can still only belong to one agent group, but the group can be part of a larger group—or a supergroup. The problem with this approach is that when an agent's skillset changes, he or she must be moved to a different group or potentially a newly created group (that's why many vendors must support the queuing of a call to a high number of agent groups and supergroups).

Allowing agents to belong to multiple groups somewhat meets the "Skill-based Agent Selection" criteria; however, it does not quite meet the demanding needs of current customers. With global trends, multiple languages supported, and multiple applications within a customer's business, end-user customers need another alternative.

Based upon this need, Nortel Networks created a true "Skill-based Agent Selection" application that, along with the power of the Symposium Call Center Server scripting tool filling the Customer Requirements Routing piece, is best in class in the market today.

What Nortel Networks did differently was to remove the concept of agents belonging to groups. Agents are individuals and have individual skills and abilities. Therefore, Nortel Networks created skillsets. Skillsets represent an application such as corporate accounts, gold card, and platinum card. The difference is that these skillsets are assigned to agents, agents are not assigned to agent groups. In fact, you'll find many individual properties that can be assigned to agents within the agent's property page, such as return to queue timing and treatment, after call work break and, of course, skillsets. With Symposium Call Center Server, agents can in fact have up to 50 different skillsets with priority levels ranging from 1–48 (plus one standby) to depict the agent's proficiency within that skill. In addition, a skillset can span multiple sites.

Since skillsets are assigned to agents, agents can be treated as individuals and not "boxed" into a split or agent group because the profile of the split best fits the profile of the agent. Additionally, changing the agent's profile is easy. If an agent acquires a new skill, that new skillset is simply enabled for them.

The skillset assignment matrix is an easy-to-read “roadmap” that depicts the agents, their current skills, and whether they are enabled or disabled within that skill. If they are enabled, a priority number is assigned to that agent within that skillset and, if not, the matrix shows a stand-by mode. Standby means that the agent has the skill to handle those call types, but is currently not taking calls for that skill type.

To summarize, although “skill-based routing” is the general term for a broad range of vendor capabilities, not all solutions are created equal. What customers are really looking for is a blending of Customer Requirements Routing (the flexible routing and treatment of callers) and Skill-based Agent Selection (the ability to select an appropriately skilled agent to handle that caller based upon the agent’s skill level and not because he or she belongs to a particular group).

Remember the following key items when talking about Nortel Networks’ skill-based routing package:

- uses a blending of Customer Requirements Routing and Skill-based Agent Selection
- facilitates customer requirements routing with a scripting tool
- has an easy-to-use interface with pull-down menus and cut-and-paste capabilities
- offers more sophisticated intrinsics, such as ASA, expected wait time, position in queue, and more
- allows customers to perform mathematical operations on intrinsics
- provides for a sophisticated interface for peer-to-peer information exchange between applications
- offers integrated prompting and collection of information
- assigns skillsets to agents—agents are not assigned to agent groups, which gives customers more flexibility when defining resources to handle callers
- simplifies supervisor changes to agent profiles
- simplifies scriptwriting
- evenly distributes calls to agents
- allows agents to have up to 50 skillsets with priority levels in each skillset assigned from 1–48

- allows additional individual parameters to be assigned on an agent-by-agent basis, not at the agent group level (for example, return to queue timer and treatment, after call break, and so on)
- simplifies scriptwriting by using one command to look for all skilled resources within a single contact center or multiple contact centers (for example, Queue To Gold_Card)
- allows calls to be queued directly to a specific agent, not sent to a secondary DN (which facilitates the loss of contact center statistics)
- provides for easy administration of agents and skillsets using the skillset assignment matrix (skillset assignments can also be scheduled)

Sample system testing checklist

	Test/expected results	Pass/Fail
	System Tests	
1	Indial - Customer Callback DID # to correct prompt	
2	Indial - Tech Callback DID # to correct prompt	
3	Indial - Vendor Help DID # to correct prompt	
4	Indial - Sys Admin DID # to correct prompt	
5	Indial - 4-digit CDN #s route to correct prompts	
6	Test all Routing with Skillset In Service and Out of Service:	
7	Call flow - Tech Callback “press 1, route to Maint”	
8	Call flow - Tech Callback “press 2, route to Prov”	
9	Call flow - Tech Callback “press 3, route to MA”	
10	Call flow - Tech Callback “press 4, route to agent ID”	
11	Call flow - Tech Callback “press invalid, replay msg”	
12	Call flow - Tech Callback “press 4, invalid ID, route to?”	
13	Call flow - Tech Callback “route to agent ID, zero out”	
14	Call flow - Tech Callback “queue for agents”	
15	Call flow - Cust Callback “route to agent ID”	
16	Call flow - Cust Callback “invalid ID, route to Tech CallBk”	
17	Call flow - WFA	
18	Call flow - Features	
19	Call flow - Vendor Help “route to agent”	
20	Call flow - Sys Admin “route to agent”	
21	Overflow - “Prov Projects OOS, route	

	Test/expected results	Pass/Fail
22	Overflow - “Prov Demand OOS, route to Maint”	
23	Overflow - “Maint OOS, route to Round Robin”	
24	Check Banner Board Operation	
25	Check Client Connectivity	
26	Symposium – real-time display info	
27	Symposium – historical reports info	
28	Server display info	
29	Message board display info	
30	Test Fold Down	
31	Check Backup Schedule (Scheduled? Done?)	
32	Check Scheduled Reports (Scheduled? Running?)	

Script validation example

Sample CDB assignments	CDN	DID	Default ACD Q	Routed by	(DIDs are ACD NCFW to prime CDN
B&C Customer Call Receipt	1000	x200		Symposium Call Center Server	Acquired CDN to Symposium Script w/ Menu
MA Services	1001			Symposium Call Center Server	Acquired CDN to Symposium Script (Menu choice 1)
MA Features	1002			Symposium Call Center Server	Acquired CDN to Symposium Script (Menu choice 2)
MA WFA	1003			Symposium Call Center Server	Acquired CDN to Symposium Script (Menu Choice 3)
MA Mailbox Revert	1099			Symposium Call Center Server	Acquired CDN to Symposium Script
A Customer Call Receipt	1900	x100		Symposium Call Center Server	Acquired CDN to Symposium Script
Tech Callback	1500	x300		Meridian Mail	1500 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)
TT Maintenance (MT)	1100			Symposium Call Center Server	Acquired CDN to Symposium Script

Sample CDB assignments	CDN	DID	Default ACD Q	Routed by	(DIDs are ACD NCFW to prime CDN
TT Provisioning Demand (CT-D)	1200			Symposium Call Center Server	Acquired CDN to Symposium Script
MA Tech Callback (Screeners)	1300			Symposium Call Center Server	Acquired CDN to Symposium Script
Customer Callback	1600	x600		Meridian Mail	1000 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)
Customer Callback RV	1688			Symposium Call Center Server	Acquired CDN to Symposium Script
DCSC Customer Report	1080	x080		Symposium Call Center Server	Acquired CDN to Symposium Script
SPOC Callback	1400	x400		Meridian Mail	1400 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)
SPOC MA	1111			Symposium Call Center Server	Acquired CDN to Symposium Script
SPOC RV	1488			Symposium Call Center Server	Acquired CDN to Symposium Script

Sample CDB assignments	CDN	DID	Default ACD Q	Routed by	(DIDs are ACD NCFW to prime CDN
SPOC Customers (Multiple)				Symposium Call Center Server	Acquired CDN to Symposium Script
TS - Maintenance MT	1010		n/a	Meridian Mail	1010 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)
TS - Maintenance MT RV	1018			Symposium Call Center Server	Acquired CDN to Symposium Script
TS - Provisioning	1020		n/a	Meridian Mail	1020 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)
TS - Provisioning RV	1028			Symposium Call Center Server	Acquired CDN to Symposium Script
TS - MA	1030		n/a	Meridian Mail	1030 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)
TS - MA RV	1038			Symposium Call Center Server	Acquired CDN to Symposium Script
System Admin	1800	x088		Meridian Mail	1800 - Meridian Mail Menu (CDN DFDN to Meridian Mail / NotAcquired)

Sample CDB assignments	CDN	DID	Default ACD Q	Routed by	(DIDs are ACD NCFW to prime CDN
System Admin RV	1888			Symposium Call Center Server	Acquired CDN to Symposium Script
ISP	1050			Symposium Call Center Server	Acquired CDN to Symposium Script
Projects	1199			Symposium Call Center Server	Acquired CDN to Symposium Script
ETN (State Government)	1399			Symposium Call Center Server	Acquired CDN to Symposium Script
Vendor Help Line	1070	x070		Symposium Call Center Server	Acquired CDN to Symposium Script
MS Corp Tech	1060	x060		Symposium Call Center Server	Acquired CDN to Symposium Script
E911	1090	x090		Symposium Call Center Server	Acquired CDN to Symposium Script
E911 Drop-Offs	1091	x091		Symposium Call Center Server	Acquired CDN to Symposium Script

Contact list, documentation, and Web sites

Contact list (North America)

CTS	800-766-3827
Meridian Pre-Sales Support Team Line	972-684-8326
Nortel Networks Advanced Deployment (United States only)	952-897-7424
Global Knowledge Training	866-456-2085
Symposium Help Desk	800-766-3827
Nortel Networks Contact Center and Self Service Solutions – Professional Services Organization (PSO)	800-466-7835 (1-800-4Nortel, ERC 1146)

Contact list (Europe, Middle-East, and Africa)

European Customer Information Centre	00 800 8008 9009* + 44 (0) 20 8920 4618 ** number accessible from most European countries*

Contact list (Asia Pacific)

Hong Kong	(852) 2100 2888
Sydney	(61) 2 8870 5200
Singapore	(65) 6287 2877
Beijing	(86) 10 6528 8877

India	(91) 80 559 2087
Indonesia	(62) 21 252 2280
Japan	(81) 3 574 1300
Korea	(82) 2 3707 4600
Malaysia	(60) 3 2080 8000
New Zealand	(64) 9 309 9052
Pakistan	(92) 51 1112 03040
Philippines	(63) 2 638 1761
Sri Lanka	(94) 7 533 1133
Taiwan	(886) 2 2366 7800
Thailand	(66) 2 955 0588
Vietnam	(844) 934 4310

Documentation

The following Symposium Call Center Server information is available:

NTPs

Installation and Maintenance Guide
Platform Migration Guide
Planning and Engineering Guide
What's New Guide
Network Control Center Administrator's Guide
Administrator's Guide for the Meridian 1
Symposium, M1/CSE 1000, and Voice Processing Guide
Scripting Guide for the Meridian 1
End-to-End Task Flow Card for the Meridian 1
Supervisor's Guide

Setup Guide for the Meridian 1

Historical Reporting and Data Dictionary

Reference Cards and Worksheets

Network Planners

Setup Worksheets for the Meridian 1

Scripting Quick Reference Card for the Meridian 1

End-to-End Task Flow Card for the Meridian 1

Third-party Programmer's Guides (available from the Developer Partner Program Web site)

Real-Time Statistics Multicast Programmer's Guide

Host Data Exchange Programmer's Guide

Meridian Link Services Interface Specification

CD-ROM

Symposium Call Center Server Release 4.2 Documentation CD-ROM

CD-ROM		
A0874718	NTUF25AC	Symposium Call Center Server Release 4.2 Documentation CD-ROM (Multilingual)

Web sites

Symposium Call Center Server information is available on several different Web sites:

Site	Target audience	URL
Nortel Networks main site (also provides access to Customer Contact and Self Service Solutions - Professional Services Organization)	Customers	www.nortelnetworks.com

Site	Target audience	URL
Nortel Networks Partner Information Center (PIC)	Channel partners	www.nortelnetworks.com/prd/picinfo/
Nortel Networks Documentation	Channel partners	www.nortelnetworks.com
Nortel Networks Training	Channel partners	www.get.globalknowledge.com/norteltraining/
Nortel Networks Training (Asia Pacific)	Channel partners	www.nortelnetworks.com/td
Meridian PEP Library (MPL)	Channel partners	https://www43.nortelnetworks.com/MPL (North America) https://www21.nortelnetworks.com/MPL (Europe)

To be successful, channel partner personnel involved with the planning, project management, installation, database programming, and support of Symposium Call Center Server need access to Nortel Networks Web sites and e-mail accounts.

The days of relying solely on factory-generated bulletins, media, and NTPs are over. Hard copy alone cannot keep up with the fast pace of information and innovation for modern applications and products like Symposium Call Center Server. Employees need on-demand access to the wealth of essential information and resources available on Nortel Networks Web sites to be effective and to achieve high levels of productivity as it relates to Symposium products.

Internet services such as e-mail and Web access have changed the way manufacturers distribute information about their products. The ability to effectively sell, install, and support Symposium Call Center Server requires channel partner employees to have e-mail accounts and external Web access.

- E-mail accounts are required to receive notifications of new developments and advisories about Nortel Networks products.

- Web access is a necessity to obtain the latest sales, planning, project management, installation, and support information/tools.

Information on the Nortel Networks Web site targets channel partner operations personnel and makes the following information available. (Additional CDs of user documentation are available through the Nortel Networks *Product Catalog*.)

- System Information, platform descriptions, specifications, and spares list
- User Documentation
- Product Bulletins
- Escalation Procedures and Contacts
- Frequently Asked Questions (FAQs)
- Online Call Center Server Forum

Symposium Call Center Server information on the PIC Web site targets channel partner sales, engineering, project managers, installation, support, and management. You must have an account to access the PIC.

PIC accounts are available at no charge to all authorized channel partners and their current personnel. To apply for an account, access the PIC home page at www.nortelnetworks.com/prd/picinfo/, and then click “PIC Log In/Access Assistance.”

Information available in the PIC’s Symposium Call Center Server area includes

- white papers, fact sheets, guides, and sales and marketing bulletins
- operations information (for example, Channel Partner Readiness Package, General Release Bulletins, technical references, and so on)
- sales tools (for example, white papers, guides, presentations, and brochures)