



Voice over IP

Solutions for Enterprise

In today's tough, sink-or-swim business environment, high-performance Internet technologies such as Voice over IP (VoIP) can help your company find the strategic edge you've been looking for.



Nortel Networks* can help businesses of all sizes thrive by creating a converged architecture that shifts voice traffic to the IP network. Your company can deliver new services, penetrate new markets, and reduce operating expenses by taking advantage of this new technology, dramatically increasing revenue opportunities. Nortel Networks has the extensive experience in both telephony and data networking needed to deliver these next-generation solutions, and is uniquely poised to help your business unleash the profit potential of the Internet.

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Nortel Networks understands that new investments need to deliver tangible benefits, and we've developed a complete portfolio of solutions designed to empower your business, contain costs, and drive profitability. Whether you are deploying a pure-IP solution across a single site or multiple branches, adding VoIP capabilities to your existing PBX, or upgrading your key system to a digital/VoIP or pure-IP telephony environment, we have the products you need to maximize the efficiency of your personnel and the performance of your network.

Nortel Networks VoIP solutions offer a new approach that can result in significant savings. Less expensive to operate and maintain, VoIP networks eliminate the need to lease additional broadband lines. And by introducing new services such as Web-enabled multimedia call centers, powerful unified messaging applications, remote management capability, and other e-business productivity tools, your business can increase customer service, employee productivity, and maximize revenues.

The Nortel Networks VoIP solutions include the following elements:

- **Succession* Communication Server for Enterprise 1000** delivers a full-featured, pure-IP VoIP solution for enterprise environments that can be scaled to support thousands of users.
- **Succession Internet Enabled Solutions for Meridian*** provide an evolutionary migration path to VoIP, delivering line-side VoIP capabilities to traditional PBX installations, as well as extending trunk-side PBX and remote service VoIP capabilities over high-performance IP links.
- **Business Communications Manager** enables small- and medium-sized businesses and branch offices to create either revolutionary pure-IP networks, or evolutionary hybrid digital/VoIP environments.

Succession Communication Server for Enterprise 1000

Designed to provide a scalable, full-featured pure-IP solution for large enterprise environments, Succession Communication Server for Enterprise 1000 is the only product on the market that can deliver a comprehensive suite of telephony applications equivalent to those offered by the industry-leading PBX system, Meridian 1*. In addition, the Succession server provides cutting-edge e-business solutions such as the Symposium* IP Contact Center Solutions, CallPilot* unified messaging, centralized Optivity* management services, customer relationship management software, IP telephones, and wireless voice over IP.

The Succession Communication Server for Enterprise 1000 supports up to 640 IP stations per server. Additional servers can be added on an as-needed basis, providing a scalable solution capable of providing service to thousands of users. For companies who already have an installed network of IP-enabled Meridian PBXs and Business Communications Manager systems, the Succession server can be seamlessly inter-networked to create a company-wide pure-IP or converged digital/IP infrastructure.

Retain the Performance of Digital Telephony and Profit from the Enhanced Capabilities of VoIP

The experience of being on a VoIP network is completely transparent to your employees, maintaining the effectiveness of your workforce and eliminating the need for extensive training. Users will find that the Nortel Networks i2004 Internet Telephone provides excellent voice quality and quick access to a broad range of features, and the i2050 Software Phone is ideal for bringing telephony capabilities to your multimedia Windows PC. Adding VoIP capabilities to the network delivers other benefits and enhancements that are designed to increase system-wide performance and the efficiency of your personnel.

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Evolutionary or Revolutionary VoIP Solutions The Choice is Yours

VoIP architectures are typically developed using two approaches: revolutionary, pure-IP networks and evolutionary IP-enabled networks. Pure-IP telephony networks are capable of delivering enhanced VoIP capabilities across campus environments and wide area networks, whereas IP-enabled telephony networks are designed to supplement the existing capabilities of digital telephony systems.

Revolutionary pure-IP solutions

from Nortel Networks deliver full-featured telephony services over high-performance IP networks that can offer all of the performance features of traditional PBX-systems, and also support exciting new technologies such as distributed call centers, advanced wireless solutions, and more.

Evolutionary IP-enabled solutions

can extend VoIP services across the converged LAN, and allow the centralized Meridian PBX system to extend telephony services to branch-office and home-office environments. By updating your current communications investment your company can preserve the viability of its existing PBX or key system, and benefit from the innovative features that are only supported by VoIP.

Pure-IP solutions based on the Succession Communication Server for Enterprise 1000 deliver the following key benefits:

- Consolidates voice and data traffic onto a single cabling infrastructure, reducing costs by eliminating the need for a separate cabling system for the telephony network.
- Simplifies moves, adds, and changes by supporting DHCP-enabled IP telephones that register themselves automatically as soon as they are connected.
- Extends distributed call centers to multiple sites, enabling calls to be seamlessly routed to agents at branch or home offices. This approach balances workloads and can improve customer service.
- Advanced IP-based call center applications enable customers to interact with agents over the Web, posing questions

in chat windows or requesting a personal callback simply by clicking a "Call Me" button.

- Enables Nortel Networks Access Points to be easily deployed at any location on the network, providing support for 802.11 wireless devices.

Creating a Converged IP-Enabled Environment

In addition to creating IP-based telephony networks, the Succession Communication Server for Enterprise 1000 can be internet-worked with existing Meridian 1 and Business Communications Manager installations to create a converged digital/IP network. For example, a company with a pure-IP installation at its new facility can extend connectivity to an existing site with an IP-enabled Meridian 1, and also use the Business Communications Manager to

network a smaller branch office. This approach preserves the viability of current hardware investments, enabling the market-leading Nortel Networks business communication features and service capabilities to be seamlessly interwoven across the converged infrastructure.

Services can also be extended to smaller offices via the Nortel Networks Remote Office 9150 solution, a fully survivable WAN solution that provides support for up to 32 users. Other Remote Office solutions are available to extend connectivity to the home office environment.

Integrated Solutions for VoIP

The Nortel Networks VoIP

solutions for Enterprise share a common set of software applications and hardware accessories that are designed to maximize the performance of your network. Extending an integrated solution across the network reduces costs and increases the effectiveness of your personnel, eliminating the need to deploy, maintain, and manage disparate systems.

Software Solutions

CallPilot Unified Messaging Services

CallPilot combines voice, fax, and e-mail into a single point-and-click interface on your multimedia Windows PC. Voice messages can either be played back over your phone or on the PC's speakers, stored for future reference, or forwarded as an attachment to an e-mail. Voice mail is easily accessed from any location, and messages can be conveniently forwarded from one extension to another, or messages to multiple extensions can be left simultaneously. Faxes can be received as e-mail and quickly forwarded to other users. CallPilot supports leading e-mail clients such as Lotus Notes, Microsoft Exchange/Outlook/Outlook Express, Novell Groupwise, Netscape Mail, and Eudora.

Centralized Management Services

Optivity Telephony Manager enables skilled personnel at the central site to manage the entire telephony network from a single location, dramatically reducing administrative expenses. Moves, adds, and

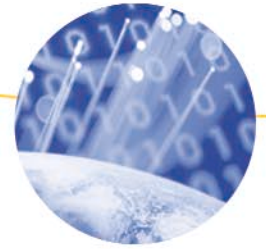
changes can be handled quickly and efficiently, and fault monitoring enables managers to act proactively to prevent potential network outages. Seamless integration between the Optivity Telephony Manager application and the powerful, system-wide Optivity Network Management System offers a comprehensive solution for managing all of the elements present in converged environments.

IP Contact Center Solutions

IP Contact Center Solutions enable businesses to unleash the profit potential of the Internet offering unparalleled choice and customizability for integrated business solutions. Using IP, businesses can extend their contact centers to agents anywhere, while providing a seamless experience for customers and suppliers. This flexibility helps to attract and retain customers by making it easier to conduct business with them - anyway and anytime.

IP Contact Center Solutions build upon the strength of the award winning

What is a Converged Networking Environment?



In a converged environment, both telephony and data signals are transmitted as packets over the data network. This approach delivers several advantages, including:

1. **Cost-effective VoIP.** Bandwidth resources that have traditionally been restricted to data can now be used for telephony, maximizing the efficiency of your network. Digital voice circuits can be relegated to back-up status or even eliminated, and toll charges between branch offices can be reduced or eliminated.
2. **Simplified networking architecture.** A single infrastructure is capable of carrying both data and telephony traffic, saving money by eliminating the need to pull separate cables. This approach reduces repair time and streamlines network installations and reconfigurations.
3. **Portable, flexible solution.** Network deployments and reconfigurations are simplified, and service can be extended to remote sites and home offices over cost-effective IP links.

Networking Environments

Symposium Call Center portfolio to intelligently handle customer interactions of every type - phone, fax, e-mail, and the Web. Businesses can then manage customer needs more effectively, resulting in stronger, more profitable relationships.

Hardware Solutions

i2004 Internet Telephone

The Nortel Networks i2004 Internet Telephone provides clear, high-quality telephony service, and offers the same familiarity and ease of use as a traditional telephone. The i2004 phone connects directly to the LAN via a modular RJ-45 connector, enabling your company to capitalize on the economies of a simplified wiring system within the enterprise.

The unit supports both Dynamic Host Control Protocol (DHCP) and static IP addressing for configuration and IP address management flexibility. Once configured, the unit can be easily moved without rewiring or intervention by the network manager - simply plug the phone into any port on a LAN with sufficient bandwidth.

Internet Telephone Switch Module

This innovative device allows a desktop PC and the i2004 Internet Telephone to share a single Ethernet connection. The switch module snaps conveniently into the base of the i2004 Internet Telephone, and is designed to prioritize telephony traffic over the PC's data traffic. Sharing a single connection simplifies the network wiring system and ensures optimum telephony performance.

Power Over LAN Hub

Designed to provide a high-reliability solution for providing power to desktop i2004 Internet Telephones over the network's cabling system, the Power over LAN Hub can be easily installed into the wiring closet. Telephone installations are simplified by eliminating the need to connect each telephone to a local AC power outlet, enabling phones to be deployed even if AC power is not available at the desired location.

i2050 Software Phone

The exciting i2050 Software Phone transforms your PC into a full-featured telephony communications platform. Simply load the software, plug in a headset into the USB port, and receive full-featured telecommunications services directly from your PC. Ideal for call center agents using Computer Telephony Integration (CTI) products such as Nortel Networks Symposium, this software-based solution provides unified voice mail/ e-mail/ fax messaging services, and offers the same services and capabilities as the i2004 Internet Telephone. The solution also supports powerful directory capabilities, with instant access to data that can either be stored locally on the PC or accessed remotely.

Succession Internet Enabled Solutions for Meridian

Nortel Networks offers a smooth, evolutionary migration path to a converged digital/VoIP environment for businesses that have a Meridian 1 or Meridian SL-100 communication system in place, or are planning to purchase one. This ensures the continued viability of your investment, and opens the door to a hybrid digital/IP network that delivers the powerful advantages of VoIP systems and applications to your Meridian PBX environment.

The Succession Internet Enabled Solutions for Meridian include the following innovative products:

- **Line-Side Gateway**
The Internet Telephony Gateway line card brings the power of VoIP to your Meridian 1 installation, enabling personnel to use the i2004 Internet Telephone, i2050 Software Phone, or wireless VoIP devices. The card packetizes and compresses voice signals for transmission over the IP data network, and provides support for up to 96 VoIP stations. Using industry-standard G.711 and G.729 compression and DiffServ Quality of Service, clear voice transmissions are ensured. For optimum performance in large, complex networking environments, a Passport* 8000 Layer 3 routing switch can be deployed to achieve high-availability, wire-speed throughput of voice signals across the network.
- **Trunk-Side Gateway** The Internet Telephony Gateway trunk card enables your company to use cost-effective IP bandwidth between Meridian switches, replacing more expensive PSTN connections or dedicated leased lines for voice. Routes can also be established between Meridian switches and other Nortel Networks VoIP-capable systems, such as the Succession Communication Server for Enterprise 1000 or Business Communications Manager. Your Meridian investment is completely protected because users at the Meridian installation continue to use their existing telephones and applications, eliminating

the need for costly forklift hardware replacements.

Packetizing voice and fax traffic and routing it over the corporate intranet reduces costs through trunk consolidation and toll bypass, leading to a quick return on investment. Clear telephony signals are ensured by the Meridian Internet Telephony Gateway's Quality of Service (QoS) monitoring capabilities. If latency or packet loss exceeds specified thresholds, calls are gracefully transitioned back to a circuit-switched connection. This IP-based technology is completely transparent to the user, and supports high-value signaling features such as Caller ID and Calling Party Name Display.

- **Wireless IP Gateway** The e-mobility* 802.11 Wireless Gateway adds support for VoIP solutions such as wireless headsets. By supplying your workforce with these advanced wireless solutions, your company can dramatically improve the efficiency of its personnel.
- **Remote Office Solutions** For IP connectivity to smaller remote sites, users can select the Nortel Networks Remote Office 9150, Remote Office 9110, and Remote Office 9115 solutions. These units leverage your Meridian 1 investment by extending service over cost-effective IP links to Nortel Networks Meridian digital telephones located at branch or home offices. The remote sites connect over T1/E1, ISDN BRI, cable, or DSL lines to a Nortel Networks Reach Line Card installed into the Meridian 1 PBX at the central site. Call quality is ensured by a graceful, transparent switchover to a circuit-switched connection if call quality begins to degrade. Survivability for branch offices is built in.
- **Option 11C Mini IP Expansion** Companies who have the smaller Meridian Option 11C PBX can use this innovative solution to add capacity beyond nine PRI connections, and also reap the benefits of VoIP. The Mini Expansion chassis can be added to corporate LAN, and VoIP services established between the Meridian and the satellite device. In addition to the many benefits offered by VoIP, the Mini

Expansion chassis becomes an independent, fully-survivable system that is capable of accessing the public network directly, even if it's unable to access the main switch.

Together, these products deliver a comprehensive solution for providing IP-enabled solutions to Meridian 1 systems. The net result is a smooth, graceful migration path to the benefits offered by VoIP — businesses are free to migrate to the new architecture at their own pace, without compromising prior investments or existing business practices.

Business Communications Manager

Designed for small- and medium-sized businesses and branch offices, Business Communications Manager supports both pure-IP and IP-enabled network architectures. Whether your company is interested in establishing a next-generation, pure-IP environment, a hybrid digital/IP telephony network, or needs a smooth migration path from a Norstar* key system to a more cost-effective VoIP infrastructure, Business Communications Manager provides an ideal solution for all types of businesses.

Business Communications Manager offers numerous benefits, starting with powerful new e-business applications that level the playing field with larger competitors. And Nortel Networks wireless e-mobility solutions ensure that your employees are never "away from their desks," yet are free to roam, increasing their effectiveness.



Business Communications Manager delivers the following key benefits:

- Data Services are extended to all users, enabling them to communicate via e-mail, access Web sites, and share files between remote locations. Virtual Private Networks (VPNs) are also supported, providing secure connectivity to a Nortel Networks Contivity* Extranet Switch, a Nortel Networks Shasta* 5000 Broadband Service Node, or another Business Communications Manager.
- Multimedia Call Centers put up to 80 active and 250 configured agents at your customer's fingertips. Agents in multiple locations, including home offices, can support the same queue. Customers can enter the queue simply by clicking a button and entering their phone number, and will receive a phone call as soon as an agent is available. Customers and agents can chat online, and Computer Telephony Integration (CTI) is also supported so agents will have full access to background information on a caller before the conversation begins. The end result? Dramatic potential improvements in customer service.
- VoIP Solutions deliver telephone service between branch offices, enabling employees to make calls or send faxes without incurring long-distance charges. By using the extra bandwidth on your WAN, your company can reduce expenses and maximize the utility received from network investments. Wireless IP connectivity for phones, laptops, or barcode scanners is provided anywhere on the network where a Nortel Networks Access Point is installed, even in remote network installations.

- Voice processing applications include unified messaging solutions that enable you to manage voice mail, e-mail, and incoming faxes directly from your multimedia Windows PC. In a mixed Meridian 1–Business Communications Manager environment, CallPilot and Meridian Mail* can be extended to remote offices, enabling users to listen to voice mail, save or forward messages, view faxes on screen and forward them as e-mail, or use Caller ID to go straight to key messages. And the Auto Attendant feature gets your callers where they need to go – fast – without the need for hiring a full-time switchboard operator.

In a pure-IP environment, each Business Communications Manager can support up to 90 IP stations. In a hybrid digital/IP environment, up to 139 stations can be connected, providing a flexible networking solution that meets the needs of a wide variety of businesses.

As network demands increase, additional levels of performance can be achieved by installing the Business Policy Switch. This device maximizes network availability, and ensures that mission-critical IP applications will deliver top performance — without the need to overprovision the network to ensure bandwidth access.

Unleashing the Profit Potential of the Internet

When you select Nortel Networks as your partner in putting cutting-edge VoIP solutions to work for your business, you'll profit from a potent blend of carrier-grade reliability, advanced e-business applications, and powerful cost-containment features designed to maximize revenues. By delivering better customer service and increasing the productivity of your workforce, your company can achieve the strategic edge you've been looking for.

Nortel Networks VoIP solutions give you everything you expect from a high-grade PBX phone system, plus an exciting range of IP solutions designed to turbocharge profitability and boost the performance of your business. For more information on putting the power of VoIP to work for your company, call **1-800-4-Nortel**, or contact your **Nortel Networks representative today.**





For more information, please contact your local Nortel Networks account representative or call 1-800-4 NORTEL (1-800-466-7835) or 1-506-674-5470.

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