

Solution Overview

Nortel Networks

Succession

Communication Server for Enterprise 1000

NORTEL
NETWORKS™

Features and benefits

- Full-featured IP Telephony for enterprise environments
- WAN- and LAN-distributed call and connection
- Call Server and WAN Gateway survivability
- Simplified, cost-effective cabling infrastructure
- Converged infrastructure streamlines installation and maintenance
- Unified management of voice and data networks
- Open standards support for emerging technologies and third-party interworking
- Supports E911 emergency services and desktop enhancements

Succession* Communication Server for Enterprise 1000 is designed to provide a full-featured IP Telephony solution for the enterprise environment. It is a robust, survivable, IP-based platform, capable of being distributed across IP Wide Area Networks (WANs) and delivering the full range of proven telephony applications from Nortel Networks.

Companies who are establishing a pure IP environment can benefit from the value-added capabilities that are only supported by IP Telephony, including a simplified and cost-effective cabling infrastructure; DHCP-enabled IP telephones that provide easier moves, adds, and changes; support for 802.11 wireless devices; as well as support of Unified Messaging, Unified Management, and Web-based Call Center applications. Nortel Networks delivers these capabilities with Succession CSE 1000 by enabling a converged network infrastructure that eliminates boundaries and provides options that address unique business needs—key components of Nortel Networks enterprise strategy, **One Network. A World of Choice.** Through our comprehensive product and solution portfolio, Nortel Networks is transforming the enterprise into a profitably proactive entity—one that can predict customer needs and satisfy them with time-sensitive, valued information, wherever they are. It's a new model of engagement with customers coupled with the power to transform your business.

The Succession CSE 1000 supports up to 1,000 IP terminals per server, and offers a solution capable of scaling to thousands of users as demand increases. A key advantage for large multi-site enterprises requiring transparent system networking, the Succession CSE 1000 goes beyond the basic features offered by other vendors. Nortel Networks offers a solution capable of supporting critical networking features such as Unified Dialing Plan, Time of Day and Automatic Least Cost Routing, IP Peer Networking, Network and Traveling Class of Service, and more.

In addition to creating IP-based telephony networks, the Succession CSE 1000 can be seamlessly internetworked with Meridian 1 and Business Communications Manager installations, creating a converged digital/IP network that preserves the viability of current hardware investments. Nortel Networks offers a full range of internetworking products that are designed to unite existing Meridian or Business Communications Manager networks with IP-based Succession environments, including the extension of IP connectivity to branch office locations.

System overview

The Succession CSE 1000 is an IP-based communications system that enables customers to distribute their telephony equipment throughout their Quality of Service (QoS) managed IP network. The product consists of a number of key components that are illustrated in the Succession CSE 1000 Infrastructure diagram.

- Call Server functionality
- Signaling Server services
- Interfacing with the Succession Media Gateway
- Succession Survivable Branch Office solution
- Unified Management capability
- Wired and Wireless Internet Telephone support
- Data infrastructure
- Broad suite of applications including Unified Messaging, Customer Contact Center and Voice Portal solutions, Attendant Console, and support for Nortel Networks digital telephones

Call Server

The primary task of the Call Server is to provide call and connection management services for the IP network. A comprehensive range of telephony features are supported such as Network Virtual Office that allows users to “log in” to any Nortel Networks IP phone on their network using their ID and Password for immediate “virtual” access to the features and user profile of their own desktop telephone. Other features supported include: Corporate Directory, Conference, Call Forward, Ring Again, Multiple Appearance Directory Numbers (MADNs), and Call Detail Recording. In addition, hundreds of other useful manage-

ment, networking, and routing features and applications are also supported. Nortel Networks worked closely with customers to develop this unparalleled suite of services.

Succession CSE 1000 can be distributed virtually anywhere within the IP network to provide a scalable IP telephony solution, with each server supplying service for up to 1,000 users. Based on proven telephony-grade technology from Nortel Networks, the Succession CSE 1000 brings the reliability and redundancy that is expected of digital telephony solutions to the IP environment. In addition to its rich suite of native Nortel Networks telephony applications, the solution also supports non-Nortel Networks developed applications through compliance with the industry-standard Telephony Applications Program Interface (TAPI). The TAPI interface is a client-server-based model that has been embraced by software developers who build telephony-enabled applications. Trunk-based interfaces using Q.Sig and ISDN protocols provide an additional level of flexibility.

Signaling Server

The Signaling Server is a standard server that provides signaling interfaces to the IP network using software applications that run on the industry-proven VxWorks real-time operating system. It allows deployment of components across a Wide Area Network while providing a complete set of industry-leading features. Environments requiring increased scalability and reliability can deploy the Signaling Server in a load-sharing, fully redundant configuration to accommodate automatic fail-over of all software components.

Succession CSE 1000 Core Elements



Call Server



Signaling Server



Succession Media Gateway

The Signaling Server performs important call control services such as registration of terminals and gateways, admission control, IP address translation, and bandwidth control.

The Signaling Server's H.323 Gateway provides an industry-standard H.323 signaling interface between Succession CSE 1000 systems across an enterprise WAN, or to H.323 gateways and PBXs that act as H.323 gateways. Applications are shared among systems, providing continuity of features and services.

Succession Media Gateway

Another key component of the architecture is the Succession Media Gateway. Equipped with an adaptable number of DSPs to perform media transcoding, the Succession Media Gateway acts as a bridge between IP and TDM-based telephony networks, such as the PSTN. The Succession Media Gateway supports a complete range of interfaces, including analog and digital trunks, as well as analog lines and digital lines.

Its flexible design allows smooth integration into an existing data infrastructure, either on the same LAN or distributed throughout a WAN. As standalone 19 inch rack devices spread across existing wiring closets, Succession Media Gateways are designed to eliminate the need to add costly voice ports to routers and avoid the creation of a single point of failure. The Succession Media

Gateway is also capable of providing survivability in adverse operating conditions. Once installed, the units can be configured and managed from a central management station running Optivity Telephony Manager.

Key features include:

- Global suite of telephony trunks: analog and digital PSTN, ISDN (PRI/BRI), T1/E1
- Full support of hard-wired and wireless telephony interfaces
- Analog station gateways provide support for analog phone and fax machines
- Interface cards to support Meridian 1 digital telephones and applications requiring such interfaces
- Tone, Local Switching, and Conference circuits
- Optimum voice quality delivered via enhanced echo cancellation and compression/decompression algorithms
- Standards-compliant Q.SIG networking to other compliant PBX systems

Survivable branch offices

Succession CSE 1000 can be distributed across enterprise WANs to provide survivable support to remotely located branch offices and employees. Using either Succession Branch Office or Nortel Networks Remote Office portfolio, remote workers have the simplicity of abbreviated dialing, as well as full support of key business applications such as CallPilot unified messaging and Symposium contact center services.

Succession Branch Office and Remote Office solutions are fully survivable, supporting PSTN connections for inbound and outbound calling in the event the remote site loses contact with the main site. It also provides a "local presence" for branch offices, allowing local calls to be placed directly through the local telephone company, reducing toll charges and providing direct dialing for local E911 services.



Succession Branch Office

Succession Branch Office transparently extends Media Gateways and signaling services to remotely located branch offices supporting up to 400 users. The Call Server at the main office provides the call processing for both the main and branch offices, while an H.323 Media Gateway located in the Branch Office provides access to the local PSTN for local inbound and outbound calls including Emergency 911 calls. If an IP connection to the main office cannot be made, the remote Media Gateway goes into survivability mode to provide service to the telephones located at the Succession Branch Office, providing continuity of service to remote users. Once the WAN connection is restored, connection back to the main office resumes automatically.

Remote Office 9150 is an ideal solution for extending voice services to small branch offices of up to 32 users; Remote Office 9110 and 9115 are designed for small office/home office applications. Remote Office products support call center personnel, telecommuters, and other remote teleworkers over various IP broadband connections—DSL, cable modems, fixed wireless IP, Metro LAN—as well as over circuit-switched PSTN lines. To ensure maximum reliability, Remote Office utilizes a patented technology called Quality of Service (QoS) Transitioning. QoS Transitioning allows Remote Office units not only to route calls over both IP and PSTN networks, but also to move live calls from one network to the other as IP network performance—and resulting IP Telephony voice quality—varies. This allows Remote Office to keep vital customer calls running with good voice quality even when IP network performance may be below par, while at the same time continuing to route calls over the most cost-effective method available at any given time.

Secure Communications

Succession CSE 1000 offers great flexibility in distributing real-time voice communications to enterprises deployed for use in main office, branch office, telecommuting, and mobile user applications. Understandably, this flexibility must work hand-in-hand with the requirement to provide secure communications. Nortel Networks offers solutions that allow secure IP Telephony traffic in a scalable, cost-effective, and high-performance manner.

The Contivity Secure IP Services Gateways are a next-generation family of products designed to deliver security and IP services in a single integrated platform. Contivity provides IP routing, Virtual Private Networking (VPN), stateful firewall, encryption, authentication, policy, and bandwidth management services all within the same device. When deployed at the edge of an enterprise's network—the intersection of private and public IP networks—Contivity allows secure communications to occur over public IP infrastructure, allowing organizations to take advantage of the flexibility, reduced cost, and ubiquity of public Internet access. With a comprehensive set of software-enabled IP services, Contivity allows enterprises to easily deploy needed services today with the flexibility to add new ones in the future—all without costly hardware upgrades.

Contivity's IPsec-based IP-VPN services deliver critical capabilities for secure IP Telephony transmission, including encryption, authentication, and data integrity services. As more and more enterprises move to deploy IP-VPNs, it becomes critical to ensure that VPNs maintain the same performance, scalability, and dynamic requirements as were available under previous private-line, "clear text" IP networks. Secure Routing Technology (SRT) from Nortel Networks addresses the dynamic routing and scaling requirements of deploying large scale secure Virtual Private Networks. SRT on Contivity can be utilized to support the critical security requirements of Succession solution deployments, while preserving the same levels of high performance, high scalability, and high availability that are expected of "telephony-grade" dynamically routed IP networks.

Succession Enterprise System Management

Succession CSE 1000 is managed by the Optivity Telephony Manager application, a key component of the Nortel Networks Enterprise network management suite. Optivity Telephony Manager (OTM) provides simplified configuration, management, and control of Succession CSE 1000 and Meridian 1 systems. The OTM client-server architecture and Web-based interface offer a single point of entry for centralized management and the ability to support multi-user access.

Not only does OTM provide simplified day-to-day administration, it also provides a clear view of network usage so that security issues—such as toll fraud and usage abuse—can be detected and eliminated before they become a liability. Some of the advanced management functionality available within OTM includes alarm management and notification, station configuration and maintenance, and customizable report generation, including a comprehensive call accounting package for tracking telephone usage for bill-back reports. Utility tools include disaster recovery, database import/export capability, database back-up/restore capability, Lightweight Directory Access Protocol (LDAP) synchronization, and a task scheduler.

Ultimately, OTM is a solution that will improve operational efficiency and reduce the costs associated with managing complex network environments.

Internet Telephone support

Whether you choose a full-featured desktop Internet, digital, or analog phone or prefer the convenience offered by a software phone, Nortel Networks has the right solution for you.

i2002 and i2004 Internet Telephones

The Nortel Networks i2002 and i2004 Internet Telephone offer a full-featured desktop solution with a broad range of capabilities. The i2002 Internet Telephone is a four-line mid-range phone with a small footprint and LCD display ideal for business professionals and staff. The i2004 Internet Telephone is a high-end desktop solution for executives and managers, featuring a large LCD display and up to 12 line keys.

Delivering a full-featured desktop solution, these devices support a broad range of key telephony applications, including CallPilot* Unified Messaging and Symposium* Call Center services. Both units connect directly to the LAN via a modular RJ-45 connector, and support both 10 Mbps and 100 Mbps Ethernet connections.

The i2002 and i2004 Internet Telephones support both Dynamic Host Control Protocol (DHCP) and static IP addressing, providing a flexible solution for configuration and IP address management. Once configured, the units can easily be moved to any network node capable of supporting IP Telephony without rewiring or intervention by the network manager. The phones are equipped with a built-in 10/100 Base-T Layer 2 Ethernet switch that allows a co-located desktop PC to share a single Ethernet connection and prioritizes telephony traffic over data traffic from the PC.

In mission-critical environments, the Nortel Networks BayStack 460-24T-PWR Power over Ethernet Switch provides power to Nortel Networks desktop Internet Telephones and other IP devices over a single UTP cable. Part of the successful BayStack family, the BayStack 460-24T-PWR Power over Ethernet Switch is a resilient, secure stackable switch with 24 10/100 ports and Power over Ethernet capabilities to IP phones and future IEEE 802.3af-compliant devices such as wireless access points and net cameras. It also has advanced QoS features to ensure connectivity and network availability

for mission-critical users or delay-intolerant applications such as IP Telephony. This approach delivers carrier-grade reliability combined with the flexibility of IP Telephony.

i2050 Software Phone

The Nortel Networks i2050 Software Phone is a Windows-based software application that transforms desktop or laptop computers into powerful tools for unified voice, data, and video communications. This solution provides the same services and capabilities as the i2004 Internet Telephone, plus powerful directory capabilities. Directories can either be stored locally on the PC, or external LDAP, Outlook, or ACT directories can be accessed remotely.

Obtaining full telephony capabilities is as simple as plugging an optional headset into the PC's USB port.



i2002 and i2004 Internet telephones

Voice over Wireless IP Solutions

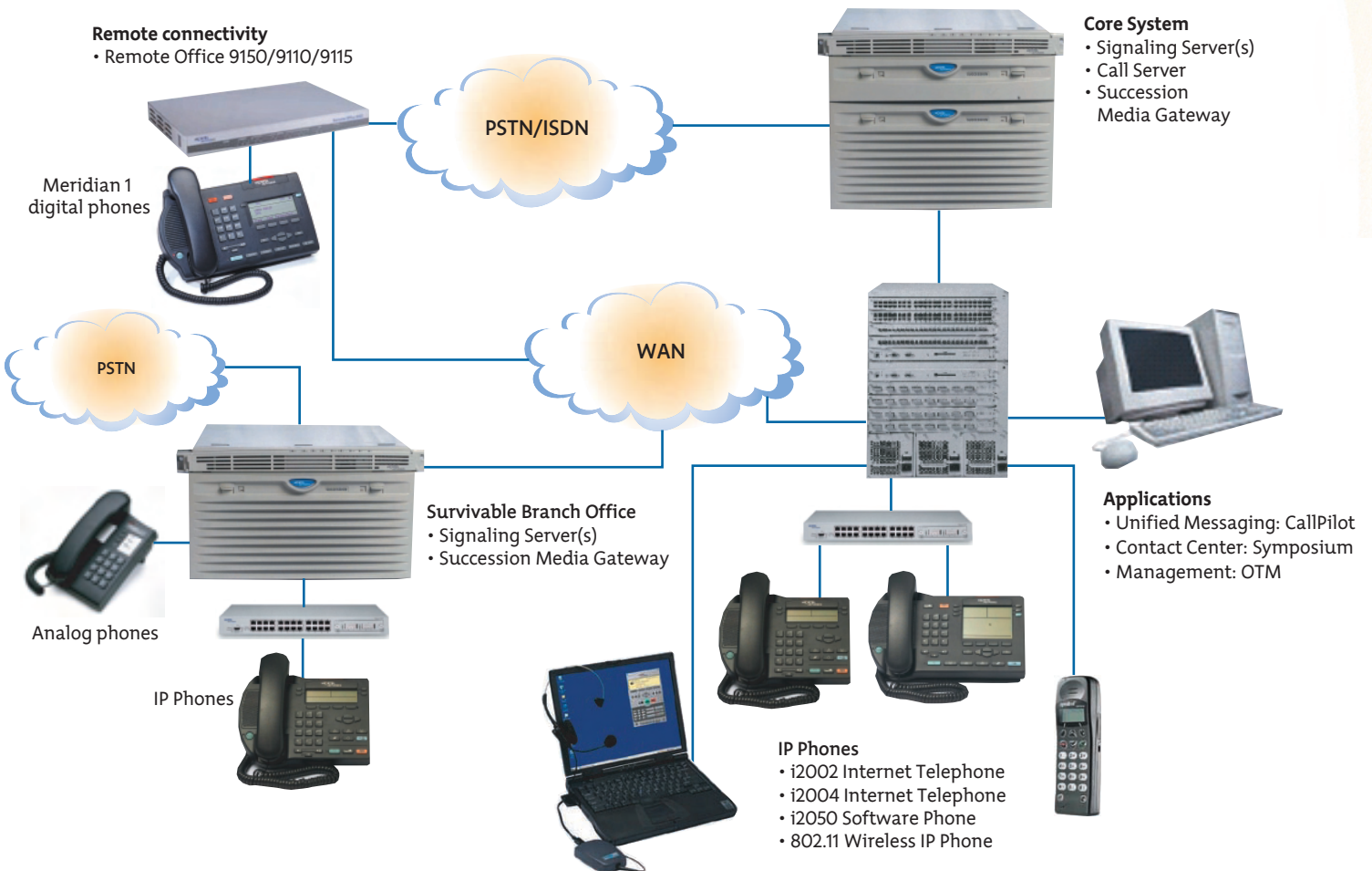
The Nortel Networks 802.11b product portfolio delivers wireless phone connectivity over IP networks. Ideal for mobile employees in the retail, medical, and many other business sectors, the wireless IP solutions offer users more freedom and flexibility than ever before. By connecting the Nortel Networks Access Point device to the LAN, connectivity is extended to mobile users using wireless phones, scanners, and other devices.

Wireless connectivity can even be extended to laptops, offering users fully mobile access to the Web.

Mission-critical IP Telephony

Nortel Networks Ethernet Switching portfolio of products delivers a complete end-to-end solution for IP Telephony applications. The Passport 8600 and 1424T combined with the Business Policy Switch, BayStack 460, and 470 supply the infrastructure designed to handle bandwidth stringent applications. With end-to-end support for QoS, Power over Ethernet ports, and simple comprehensive configuration tools, implementing applications like IP Telephony has never been easier. Being able to grow your bottom line improving application performance and more effectively utilizing network resources can help you stay ahead of the pack.

Succession CSE 1000 infrastructure



Nortel Networks is helping companies like yours create a better experience for customers and employees alike by providing solutions that address your unique business realities. Delivering upon our enterprise network strategy—**One Network, A World of Choice**—the value of IP Telephony, powerful new IP-based applications, and advanced wireless technologies can improve customer service and increase internal efficiency, enabling your company to achieve a strategic edge over its competitors. Whether you're creating a new IP-based voice/data network or integrating powerful IP solutions into your existing digital telephony environment, Nortel Networks has the experience and complete range of solutions needed to help ensure your success.

NORTEL NETWORKS™

Nortel Networks is an industry leader and innovator focused on transforming how the world communicates and exchanges information. The company is supplying its service provider and enterprise customers with communications technology and infrastructure to enable value-added IP data, voice and multimedia services spanning Metro and Enterprise Networks, Wireless Networks, and Optical Long Haul Networks. As a global company, Nortel Networks does business in more than 150 countries. More information about Nortel Networks can be found on the web at:

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