

features

in Communication Server 1000 Release 4.0

What's New Feature Summary

Communication Server 1000 Release 4.0 Software

Nortel Networks Communication Server 1000 (CS 1000) Release 4.0 is enterprise call server software that supports centralized or distributed collaborative enterprise environments with distributed call server and gateway redundancy, IP telephony scalability up to 15,000 IP clients per call server, Session Initiation Protocol (SIP) based interworking with Nortel Networks Multimedia Communication Server 5100 (MCS 5100) portfolio and support for an extended range of communication clients.

Release 4.0 software is common across both CS 1000 (formerly named Succession* 1000) and Meridian* 1 systems that also provides a seamless path for existing Meridian 1 PBX systems to migrate to an IP PBX architecture. CS 1000 Release 4.0 Software offers a robust set of sophisticated telephony features coupled with new SIP based functionality that provides a fully integrated multimedia solution for the Virtual Enterprise.

This document provides a high level summary of the features enhancements and their benefits relating to the CS 1000 Release 4.0 Software. For more detailed or technical information on the specific features and their functionality, please visit the Technical Documentation link under Support on the Nortel Networks home page: <http://www.nortelnetworks.com/>

Communication Server 1000E (CS 1000E) Configuration:

A highly scalable addition to the CS 1000 IP PBX portfolio designed for large enterprise line size deployments. Increases call processing power with an Intel Pentium™ based CPP processor capable of supporting up to 15,000 IP terminals in a large system configuration.

Benefit: Accommodates seamless growth within the CS 1000 IP PBX portfolio that allows enterprise organizations to cost effectively support up to 15,000 IP terminals per call server.

Communication Server 1000 Geographic Redundancy:

A redundant CS 1000M or CS 1000E system can now be deployed at a remote location over any distance via the customer's WAN and take over processing in the event that the primary system fails or is the subject of a major disaster. Options of Hot-Standby or Controlled Load Sharing configurations can be supported between the redundant systems with automatic database replication between the main and standby systems to promote a smooth transition.

Benefit: Enables seamless disaster recovery through total geographic redundant call server operation.

Communication Server 1000 Campus Redundancy:

Ensures fault tolerance and operational resilience by allowing active and inactive call servers of the CS 1000E system to be physically separated up to 25 miles (40 kilometers) across a campus environment using a high speed, highly reliable data link.

Benefit: Ensures business continuity by providing ultra-high reliability through local call processor separation.

SIP Registration Gateway, Services and Redirect Server

The SIP Gateway simplifies inter-working between platforms such as CS 1000 and MCS 5100 to enable fully integrated rich media features and services support. Direct IP interoperability with applications like CallPilot* as well as interoperability with 3rd party gateways, terminals and services can also be supported.

The new Proxy/Redirection Server enables SIP interoperability to Meridian 1 PBX and CS 1000 systems when another Proxy Server (such as MCS 5100) has not yet been deployed. This provides a cost effective alternative for customers desiring basic SIP interoperability, but who are not yet ready to implement multimedia rich features like those available on MCS 5100.

Benefit: Allows customers to take full advantage of SIP-based multimedia rich features and services for improved employee productivity and customer satisfaction.

IP Peer H.323 Overlap Signaling

Overlap signaling allows the CS 1000 system to initiate a call setup while a caller is still in the process of dialing digits. Overlap signaling consists of sending only some digits of the called party number in the first signaling message followed by further digits in subsequent signaling messages. This reduces the post dial delay in networks where variable length dialing plans are in use such as when dialing international numbers or when dialing private numbers where sub-directory number (DN) digits may not be fully known across the whole network. Overlap signaling support mainly impacts outgoing calls destined for public switched telephone network (PSTN) terminations, however both line originating calls and tandem trunk calls require overlap support.

Benefit: Reduced post dial delay and faster call set up saves time and increases customer satisfaction. Improves Interoperability with 3rd party Gateways

IP Peer Capacity Enhancement

Increases the number of H.323 virtual trunks from 382 to 1,200 and supports up to 1,800 SIP virtual trunks per Signaling Server. This increases scalability and reduces the number of Signaling Servers required for a large IP network configuration. It is also beneficial for implementing Centrex configurations, which typically require a far larger number of virtual trunks than was previously supported.

Benefit: Enables more efficient, cost effective deployments of large IP networks.

IP Client Portfolio Expansion:

IP Phone 2001, IP Phone 2002(Phase II), IP Phone 2004(Phase II), IP Phone 2006, IP Phone 2007, IP Conference Phone 2033, Mobile Voice Client 2050, and the IP Phone Key Expansion Module (KEM)

Release 4.0 supports several new additions to the IP client portfolio as they become available to the market, including:

- The IP Phone 2001 is a single line low cost “entry level” IP set. It can be desk or wall mounted and provides powering options of either local AC or remote LAN. It has a two line LCD display, fixed feature keys for Hold, Goodbye, Volume, Options/ Services, and Up/Down Navigation Keys.
- The Phase II release of the IP Phone 2002 and IP Phone 2004 introduce integrated switch support for VLAN tagging. The Phase II sets also support both IEEE 802.1af standards based powering and Cisco proprietary powering schemes.
- The 2006 IP Phone introduces a fully pixel based enhanced grayscale 4.5 inch diagonal display designed for users requiring increased graphical display capabilities at the desktop with the same form, function and rich telephony

feature set of the IP Phone 2004 including an integrated three port switch, full duplex speakerphone and LAN powering options including an integrated three port switch, full duplex speakerphone and LAN powering options.

- The IP Phone 2007 delivers a touch sensitive color screen display providing users with a sophisticated application experience. The 2007 IP Phone has a 5.7 inch diagonal (¼ VGA), fully pixel based color LCD screen that emulates the form and function of the IP Phone 2004 including an integrated three port switch, full duplex speakerphone and LAN powering options.
- The Mobile Voice Client 2050 is a new Pocket PC-based version of the IP Softphone 2050 that operates on industry leading Pocket PC PDAs including models from HP iPAQ™, Dell AXIM™, and Toshiba.
- The IP Phone Key Expansion Module (KEM) will expand the number of display based keys to 24, allowing up to three KEM's to be supported by the IP Phone 2002, IP Phone 2004, or IP Phone 2006.
- The IP Audio Conference Phone 2033 delivers support for standard business telephony features (i.e. call hold, transfer, mute, conference, call park, etc.), Nortel Networks user interface, and full duplex 360 degree room coverage.

Benefit: Expanded IP client portfolio offers customers increased choices and flexibility of their communication device which meet specific application requirements while improving user productivity and responsiveness.

Personal Directory, Redial List, Callers List

Increased support for Personal Directory, Redial List, and Call Log features to 20xx series IP phones, softphones, and clients supported by a CS 1000 Signaling Server. These features provide advanced directory and call tracking capabilities including the ability to add, remove, copy and edit entries to a personal contact list as well as edit and maintain the phone's callers list and redial list.

Benefit: Improves employee productivity and provides feature continuity between users of Nortel Networks 39xx series digital and 20xx series IP phones.

QoS Monitoring and Diagnostic Utilities (Telchemy™/20xx series IP Phones)

New proactive end user voice quality of service (QoS) monitoring and detection capabilities for 20xx series IP phones, softphones, and clients. These diagnostic tools (i.e. Voice quality trend reporting and troubleshooting, scheduled traffic reports, Simple Network Management Protocol (SNMP) traps, Command Line Interface (CLI) options, etc.) aid in problem isolation and correction of IP voice quality and performance issues related to the IP network, allowing network designers to detect and correct IP network issues that could negatively impact VoIP quality.

Benefit: Active QoS Monitoring of IP telephony calls allows customers to maintain peak performance by providing a method that helps ensure high quality voice calling service.

IP Call Recording

Solution offers IP-based line side recording for converged network environments. IP address and port details are provided in a new information element over Meridian Link Services (MLS) allowing call recording vendors to correlate the terminal number (TN) of a specific IP set with its associated IP address. This feature is particularly useful for call center, finance and emergency sector customers who wish to migrate from TDM-based configurations to an IP telephony based architecture.

Benefit: Advanced call recording control for IP contact centers.

SNMP Enhancements

MIB 2 support is now provided on CS 1000 4.0 call servers. Operational Measurements (OMs) available from the Signaling Server and the Media Gateway Cards are now available through an SNMP query to the system. New QoS alarm messages are also handled through SNMP. Documentation of the MIBs has been updated and is now available on an external website so that customers can have SNMP access to operational measurements.

Benefit: Improved traffic and alarm management for customers to ensure business continuity.

Network Address Translation (NAT) Traversal Enhancement

New Signaling Server software component designed to perform port discovery with an echo server. Enhancement allows 20xx series IP Phones to be easily and more securely deployed in a network environment that requires traversal of cone NAT. The mechanism may be used with or without virtual private network (VPN) services, but VPN is recommended. The echo server performs port mapping, and discovery of signaling for the media IP and port. “Keep Alive” messaging is also employed to maintain NAT IP port binding.

Benefit: Customers can now enhance their security and simplify remote IP terminal deployments where NAT is implemented without leaving open ports in firewalls.

ESN Location Expansion

Increases the number of location codes that can be configured on the CS 1000 from 1,000 to 16,000. This feature allows certain very large Centrex based VPN service customer configurations to be migrated over to a CS 1000 network design for private network connections supported with ESN Location codes. This results in a considerable monthly operational cost savings to the customer when compared to the previous options.

Benefit: Operational cost savings for customers with very large networks.

Emergency Services Access for the Europe Middle East and Africa (EMEA) Market

Emergency Services Access feature is now supported in the EMEA Market. The feature was originally introduced to the North American market with x11 Release 23.

Benefit: Improved response translates to reduced employee and employer risk during emergency situations.

Enhanced 911 Client Mobility – AUDIT

Allows administrators to determine where a 9-1-1 call will be directed and how it will appear through a print out identifying the translations and trunk groups used to route the call. The administrator will be able to query and receive a report of the path of an Enhanced 9-1-1 call as it exits the CS 1000 network to the Public Safety Answering Point (PSAP). This is also beneficial for the pre-emptive tracing of non emergency calls in a converged IP environment.

Benefit: Provides an easy method for administrators to ensure accurate 9-1-1 call routing without making actual 9-1-1 emergency calls.

Option 11C as Branch Office

Option 11C customers now have the ability to convert their existing single cabinet or chassis system to a Media Gateway 1000B (Branch Office) configuration hosted by a CS 1000 system.

Benefit: Reduce network management costs and complexity by converting existing Option 11C systems to a Media Gateway 1000B (Branch Office) configuration.

Trunk Route Optimization – Call Modification Enhancement

This feature provides trunk optimization for calls that have been affected by a modification (i.e. call transfer, conference, etc.) after the call has been established. Trunk route optimization is designed to improve trunk usage on a large network by replacing non-optimal paths across the network with a more optimal path.

Benefit: Provides more efficient and cost effective use of trunking resources in a large network.

Microsoft Outlook™ integration with Integrated Conference Bridge Release 4

With Nortel Networks Integrated Conference Bridge (ICB) Release 4, audio conference bridge sessions are now integrated and able to be scheduled directly from a users Microsoft Outlook™ calendar client.

Benefit: Offers improved employee productivity and ease of use by streamlining conference bridge setup and calendar scheduling capabilities for Microsoft Outlook™ users.

Optivity* Telephony Manager 2.2 and Element Manager 4.0 Enhancements

Optivity Telephony Manager (OTM) 2.2

New OTM Release 2.2 improvements include:

- Supports integrated management of the Survivable Remote Gateway (SRG)
- Corporate Directory enhancements (allow exclusions and adds)
- Serviceability enhancements such as SNMP alarm browser
- Feasibility study on OTM and CallPilot Web Server co-residency
- Support for new Microsoft Windows™ 2003 Server

Element Manager 4.0

Provides a single point of access to all system components around which security can be enforced. This gives access to all overlays not supported with GUI Web pages. The overlay access is complemented with on-line help of acronyms descriptions and feature configuration. The completion of GUI for all maintenance commands completely masks the complexity of overlays for basic maintenance commands on the system.

Benefit: Ease of system and network management for the customer.

Operation, Administration and Management (OA&M) Security Features

CS 1000 Release 4.0 OA&M security feature improvements include:

- Replace TFTP with UFTP for client firmware download
- Improved Operational Access Security
- Mandatory Default Password Change
- Password Guessing Protection

Benefit: Enhanced system access security.

Serviceability Enhancements

Release 4.0 introduces several serviceability enhancements that provide better detection and resolution of issues in a distributed systems environment. It introduces new “ELANnnnn” alarms. This identifies any configured IP Telephony element that fails to establish its "PBXLink" to the Call Server. Additionally, it extends the “H.323TraceShow” protocol trace capability. This enables debug and technician call traces based on Calling and Called Number together with Numbering Plan Identifier (NPI) and Type of Number (TON). It also introduces enhancements for Graceful Signaling Server (SS) Switchover to improve operational reliability of IP Peer H.323 virtual trunking when switching from one signaling server to another.

Benefit: Faster problem location and resolution for improved customer service.

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