



## Product Brief

### Communication Server 1000E

*The foundation of your unified communications experience*

Nortel Communication Server 1000E is a full-featured IP-distributed telephony communications system that delivers the benefits of network convergence and collaborative communications, providing the foundation for a unified communications environment.

The Communication Server 1000E is a highly-scalable communications platform that can evolve and grow with your business needs. Designed with the experience of Nortel's carrier-grade telephony heritage, it incorporates comprehensive resilience and security capabilities — ensuring the protection of your network, its traffic and your users. Primarily a software-based solution configured with Nortel's latest Unified Communications Management tool suite, the Communication Server 1000E consists of the following three key elements:

- The **Communication Server 1000E Call Server** provides reliable call and connection management service. It controls the system software and is capable of supporting up to 22,500 clients per server, as well as enabling geographically redundant configurations to ensure business continuity.
- The **IP Signaling and Network Routing Servers** perform important IP call control services such as registration of IP terminals and IP endpoints, IP address translation and bandwidth control. They enable the

streamlining of the network dialing plan and simplify the scalability and management of Communication Server 1000 networks.

- **Enterprise Media Gateways** support a complete range of analog and digital line and trunk interfaces across LAN or WAN infrastructures.

Supporting both Standard Availability (SA) and High Availability (HA) options, the Communication Server 1000E comes in multiple deployment configurations. These can include co-resident call and signaling server applications, TDM-only options for SA configurations, or integrated hardware to run call server and IP Signaling and Network Routing applications. Alternatively, you can choose commercial off the shelf (COTS) servers for running the IP Signaling and Network Routing applications with full support of all features and capabilities, including multiple redundancy configurations.



**Communication Server 1000E**

The Communication Server 1000E supports a broad portfolio of business-critical applications including unified messaging, web-based contact center applications, SIP-based multimedia services, integration with Microsoft Office Communications Server 2007 and over 750 world-class business telephony features designed to keep your enterprise competitive.

The Nortel Communication Server 1000E delivers the capabilities, feature richness and evolution flexibility enterprises need to lay the foundation for a reliable, secure unified communications environment.





<b>Conferencing</b>	<ul style="list-style-type: none"> <li>Nortel Multimedia Conferencing: A standalone SIP-based reservation-less audio/video conferencing solution for the Communication Server 1000 and also interoperable with Microsoft OCS. Operates on Nortel or customer supplied COTS hardware. Single conference capacity to 300 participants, single server capacity to 800 ports and cluster capacity to 5,600 ports. Audio conference recording supported.</li> </ul>
<b>Multimedia</b>	<ul style="list-style-type: none"> <li>The Multimedia Communication Server (MCS) 5100 transforms the way users communicate by providing multimedia and collaborative applications that enhance communications, making users more productive and enabling the virtual enterprise. It will support 50 to 20,000 users and is available in redundant or non-redundant configurations. The core system supports IP Telephony, call logs (in/out), directories, click to call, instant messaging, rich dynamic presence, advanced call and IM screening and routing, video telephony, file transfer, whiteboarding, web push and web co-browsing. Supports multiple media application servers (MASS) for optional applications, including Ad hoc and Meet Me Conferencing, Video Conferencing, web collaboration (application sharing), IM Chat, recorded announcements and music on hold.</li> <li>The Nortel Converged Office solution for Communication Server 1000 integrates Nortel business-grade telephony with Microsoft Office Communications Server 2007 desktop collaboration and communication systems in an open-SIP, standards-based environment. This robust, enterprise-class architecture provides a winning solution that goes beyond the complexity of competitive middleware offerings.</li> </ul>
<b>IP Telephony applications</b>	<ul style="list-style-type: none"> <li>The Application Gateway 2000 delivers practical, converged voice and data applications on Nortel IP phones that enable organizations to benefit more fully from IP Telephony. The pre-packaged, easy-to-learn, easy-to-use Voice Office applications help increase productivity and enhance organizational communications. Voice Office includes Express Directory, Zone Paging and Broadcast Alerts. The Guest Services Application package allows graphically-based custom 9-button display and promotional advertisements on screens of the IP Phone 2007 in guest rooms. Access Services also enables custom development and delivery of content to the IP Phone 2007.</li> <li>The Application Gateway 2000 supports up to 500 IP Phones. Up to 4 gateways can be networked, increasing capacity to 2,000 IP Phones on a single Communication Server 1000. One Application Gateway 2000 can also support multiple Communication Server 1000 systems.</li> </ul>
<b>Integrated applications</b>	<ul style="list-style-type: none"> <li>Integrated Conference Bridge: Capacity per card – up to ten simultaneous three-party conference calls, a conference with up to 32 participants or any combination thereof. 24- and 32-port configurations and the dual card 42-, 50- and 62-port configurations supported. Ten languages supported. Supports conference scheduling through Microsoft Outlook. Conferences can be scheduled or ad hoc (reservationless).</li> <li>Integrated Recorded Announcement: Small (five channel), Medium (six channel) and Large (ten Channel) configurations available supporting up to 20, 36 or 40 concurrent calls per card. With the RAN Broadcast software option, the number of concurrent calls equals 136, 152 and 242 per card, respectively. Eight minutes of voice or music memory standard; expandable up to five hours. Netscape Communicator 3.0 or later and Microsoft Internet Explorer 3.0 or later are supported.</li> <li>Integrated Call Director: Extensive find me/follow me capabilities for one number dialing, Remote dial access. Eight port/50 user expandable to 100 users, 16 port/100 user expandable to 150 users, 24 port/150 user expandable to 200 users and 32 port/200 user expandable to 300 users are the configurations available. Seventeen languages supported. Netscape Communicator 4.01 or later and Microsoft Internet Explorer 4.5 or later are supported.</li> <li>Hospitality Voice Services: Two-, four- and eight-port configurations available. Two-port configuration supports up to 200 rooms; four-port up to 500 rooms; eight-port up to 1000 rooms. Maximum of one IVS card per system. Netscape Communicator 4.01 or later and Microsoft Internet Explorer 4.5 or later are supported.</li> <li>Integrated Call Assistant: 5- to 32-port configurations available. Up to 32 ports supported on CS 1000 Release 4.0 or later. Netscape Communicator 4.01 or later and Microsoft Internet Explorer 4.5 or later are supported.</li> <li>Flash Card Option: Maximum of 16 voice greetings and menus, eight call screening tables, 1,000 database name capacity, 14 predefined menus. American English supported.</li> <li>Hard Drive Option: Maximum of 32 voice greetings and menus, 32 call screening tables, 10,000 database name capacity, 22 predefined menus, 3,000 personal verification recordings. Eight languages supported.</li> </ul>
<b>Wireless and Mobility</b>	<ul style="list-style-type: none"> <li><b>Hardware:</b> <ul style="list-style-type: none"> <li>Wireless LAN Handset 2200 Series, WLAN Handset 6100 Series</li> <li>WLAN IP Telephony Manager 2245</li> <li>WLAN Application Gateway 2246: Optional SVP WLAN Infrastructure</li> <li>Media Card (or software upgraded IP Line card) and Signaling Server (same requirements as for IP Phone 2004)</li> <li>128 users per IP line card; up to 5,000 IP users per Signaling Server</li> </ul> </li> <li><b>Software:</b> Minimum release of CS 1000 software supported is 4.0</li> <li><b>Hardware:</b> <ul style="list-style-type: none"> <li>DECT Handset 4000 Series</li> <li>DMC8 and DMC8-E cards, 4600, 4610 and 4610E Base Stations</li> </ul> </li> <li><b>Software:</b> All CS1000 Releases supported</li> <li><b>Hardware:</b> <ul style="list-style-type: none"> <li>SIP DECT Handset 4000 Series</li> <li>4710 and 4710E DECT Access Points</li> </ul> </li> <li><b>Software:</b> Minimum release of CS 1000 software supported is 5.5</li> <li><b>Mobile Communication 3100:</b> Extends Communication Server 1000 telephony features to mobile smart phones. Two user-side deployment options: an MC 3100 Client that supports a range of popular smartphones (cellular and Wi-Fi) including RIM/BlackBerry, Nokia/Symbian and Microsoft Windows Mobile platforms, and a 'clientless' MC 3100 WebUI that can be accessed by any browser-equipped mobile device (phone or PC) including Apple iPhone and Palm Pre.</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>Nortel Unified Communications Management Solution (UCM) can support up to 1,000 elements in a Communication Server 1000 security domain. Supported elements include CS 1000 Element Manager (one per CS 1000), NRS Manager and Subscriber Manager 2.0 (optional) and are accessible using Internet Explorer web browser (Release 6.0 or above). Web Services API (SOAP over HTTP) also available from the UCM management framework. Subscriber Manager 2.0 is deployed as a plug-in in a single scalable management application for configuration and provisioning of subscriber services (i.e., CS 1000 phones). It provides provisioning workflow and navigation by subscribers rather than by boxes. Subscriber Manager 2.0 leverages templates within CS 1000 Element Manager Release 6.0 for account (i.e., phone) provisioning. Subscriber Manager currently supports 200,000 subscribers and 350,000 accounts. Required component for managing the CS 1000 Release 6.0 Unicode Name Directory feature.</li> <li>Communication Server 1000 Telephony Manager 4.0: Supported with Windows 2000/2003 Server, Windows XP Professional and Windows 2000/2003 professional and Vista clients; Web management support with MS Internet Explorer 6.x and later; HPOpenView and Nortel ENMS integration; supports up to 128,000 sets; up to 2.5 million call records per costing configuration; alarm queue can hold up to 1,360 traps (3.7 hours worth of alarms). LDAP integration with Microsoft Exchange Server 2000, 2003 and 2007, Microsoft Active Directory for Windows 2000 and 2003, and Sun Java System Directory Server.</li> </ul>

## System capabilities

<b>Standards and protocols supported</b>	802.1d, 802.1p, 801.1q, 802.3, 802.3af, 802.11a/b/g, DCL, DHCP, DiffServ, DNS, FAX, FAX Group 3/4, G.711, G.726, G.728, G.729, G.729a, H. 225, H.245, H.323v4, IP Precedence, LDAP, SNMP, NAT, NTP, RSVP, RTP, RTCP, SIP, SSH, T.120, T.37, TCP/IP, Q.931, UDP/IP, VPIM, W RED and the following RFCs:2401, 2402, 2406, 2408, 2409, 2412, 2617, 2833, 2976, 3261, 3262, 3263, 3264, 3265, 3311, 3323, 3325, 3326 and 3515 with MCS 5100 Multimedia Communication Server, 3602, 3686, 3711.
------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<b>Mechanical standards</b>	Call Servers and Media Gateways (including Expansion, PRI and MG 1010) comply with Bellcore GR-63-CORE. Signaling Server complies with Mil Std 810E Method 516.
-----------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------

## System redundancy and survivability options

Signaling Server	<ul style="list-style-type: none"> <li>Unistim TPS - Load balanced with active failover</li> <li>Network Redirect - Primary, Secondary, Fail-safe Automatic Failover</li> <li>SIP Proxy - Primary, Alternate - Active/Active Failover</li> <li>SIP and H.323 Gateways - Automatic Trunk Failover</li> </ul>
<b>Call Server</b>	Optionally Redundant
<ul style="list-style-type: none"> <li>Call Processor(s)</li> <li>Geographic Redundancy</li> <li>Campus Redundancy</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>
<b>Media Gateways</b>	Survivable Call Server
<ul style="list-style-type: none"> <li>Survivable Media Gateway</li> <li>MG 1000E</li> <li>MG 1000E PRI</li> <li>MG 1000B (Branch)</li> <li>MG 1010</li> </ul>	<ul style="list-style-type: none"> <li>Dual Homing</li> <li>Dual Homing</li> <li>Survivable Call Server</li> <li>Survivable Call Server with redundant power and cooling</li> </ul>

Environmental		
<b>Operating environment</b>	COTS Signaling Server: DELL R300 Operating ambient temperature 50° to 95° F (10° to 35° C), operating altitude to 10,000 ft (3,050m), operating relative humidity 20% to 80% [non-condensing - tw max 85° F (29°C)]	
	IBM x3350 Operating temperature 50° to 95° F (10° to 35° C) up to 3000ft (914m); operating temperature 50° to 90° F (10° to 32° C) up to 7000ft (2,133m); operating relative humidity 20% to 90% (non-condensing)	
	Call Server and Media Gateway, Media Gateway Expansion and PRI Ambient temperature: Recommended: 15° to 30° C (59° to 86° F) - Absolute 0° to 45° C (32 to 113° F) - relative humidity (%) without condensation: Recommended: 20% to 55% - Absolute: 10% to 95%	
	MG 1010 Ambient temperature: Recommended: 0° to 45° C (32° to 113° F) for a minimum of 2 hours. The system shall operate in an ambient temperature of 40° C with a relative humidity of 95% (non-condensing) for a minimum of 3 days.	
<b>Input voltage</b>	COTS Signaling Server: - AC: 110-240V, 50/60 Hz, auto-sensing - DC: N/A	
	Call Server: - AC: 110-240V, 50/60 Hz - DC: N/A	
	Media Gateway: - (MG 1000 and Expansion) AC: 110-240V, 50/60 Hz DC: -48V - (MG 1000E PRI) AC: 110-240V, 50/60 Hz DC: N/A - (MG 1010) AC: 110-240V, 50/60 Hz DC: N/A	
<b>Power consumption</b>	COTS Signaling Server: DELL R300 - Watts: 400 - Heat Output: Maximum 1365 BTU/hr	
	IBM x3350 - Maximum Watts: 400 - Heat output: Minimum 396 Btu/hr (120 watts), Maximum: 1365 Btu/hr (400 watts)	
	<b>Call Server:</b> - Watts: 300 - Heat (BTU/hr): 1024	
	<b>Media Gateway:</b> MG 1000 and Expansion: - Watts: 300 - Heat (BTU/hr): 1024 MG 1000E PRI - Watts: 80 - Heat (BTU/hr): 342 MG 1010 - Watts: 630 maximum - Heat (BTU/hr): 2150 maximum	
<b>Dimensions and weights</b>	COTS Signaling Server: DELL R300 - 19" rack mount - Width 42.62 cm (16.78 in) - Height (1U) 4.32 cm (1.70 in) - Depth 66.04 cm (26 in) - Weight (maximum) 13.45 kg (29.7 lb)	IBM x3350 - 19" rack mount - Width: 44.0 cm (17.3 in) - Height: (1U) - 4.3 cm (1.7 in) - Depth: 71.2 cm (28 in) - Maximum weight: 15.6 kg (34.5 lb)
	Call Server: - Width: 17.4 in. (442 mm) - Depth: 15.5 in. (392 mm) - Height: 5.2 in. (132 mm) - 19 Rack Mounting: 3U - Weight: 29 lb. (13.2 kg)	MG 1000E PRI: - Width: 17.5 in. (445 mm) - Depth: 11.8 in. (300 mm) - Height: 3.5 in. (88 mm) - 19 Rack Mounting: 2U - Weight: 24 lb. (10.9 kg.)
	Media Gateway: - MG 1000 and Expansion - Width: 17.2 in. (437 mm) - Depth: 12.8 in. (325 mm) - Height: 8.4 in. (213 mm) - 19 Rack Mounting: 5U - Weight: 30 lb. (13.6 kg.)	MG1010 - Width: 17.5 in. (445 mm) - Depth: 21 in. (533 mm) - Height: 15.75 in. (400 mm) - 19 Rack Mounting: 9U - Weight: 55 lb. (24.9 kg.)

For more information, visit Nortel on the Web at [www.nortel.com](http://www.nortel.com). For the latest Nortel news, visit [www.nortel.com/news](http://www.nortel.com/news).

For more information, contact your Nortel representative, or call 1-800-4 NORTEL or 1-800-466-7835 from anywhere in North America.

Nortel, the Nortel logo, Nortel Business Made Simple, Meridian, CallPilot and the Globemark are trademarks of Nortel Networks. All other trademarks are the property of their owners.

Copyright © 2009 Nortel Networks. All rights reserved. Information in this document is subject to change without notice. Nortel assumes no responsibility for any errors that may appear in this document.

NN121201-072209

**In the United States:**  
Nortel, 35 Davis Drive  
Research Triangle Park, NC 27709 USA

**In Canada:**  
Nortel, 195 The West Mall  
Toronto, Ontario M9C 5K1 Canada

**In Caribbean and Latin America:**  
Nortel, 1500 Concorde Terrace  
Sunrise, FL 33323 USA

**In Europe:**  
Nortel  
Maidenhead Office Park, Westacott Way  
Maidenhead Berkshire SL6 3QH, UK  
Email: [euinfo@nortel.com](mailto:euinfo@nortel.com)

**In Asia:**  
Nortel, United Square  
101 Thomson Road, Singapore 307591  
Phone: (65) 6287 2877



**BUSINESS MADE SIMPLE**