

Avaya Communication Server 1000M

The foundation of your unified communications experience

Avaya Communication Server 1000M is a full-featured IP telephony communications system ideal for any current Meridian 1 customer looking to evolve to IP while leveraging an existing telephony investment and providing all employees with access to productivity-enhancing applications from Avaya Aura™ unified communications solution.



The Communication Server 1000M is a highly scalable communications platform that can evolve and grow with your business needs. It enables collaborative communications, providing the foundation for a unified communications environment. 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 Avaya's Unified Communications Management tool suite, it is comprised of the following three key elements:

- **The Communication Server 1000M Call Server** provides reliable call and connection management service. It controls the system software and is capable of supporting up to 15,000 clients per server.
- **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.

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

Communication Server 1000M technical specifications

Call Server	
Call Server Capacity	15,000 IP users
Operating System	VxWorks V5.5.19
CPU	CPP IV Intel Pentium Banias
Memory	512 MB DDR Ram
Mass Storage Media	1 GB Fixed Media Disk
Busy Hour Call Completions*	CPP IV 840,000 * BHCC ratings are nominal only; actual capacity is dependent on site configuration and application features.
Maximum Number of IP Phones	15,000 IP / 7,500 SIP
Maximum Number of Digital Phones	15,000
Maximum Number of Analog Phones	15,000
Call Control APIs Supported	TAPI, SIP TR-87
Software Features	Over 750 features including: Six Party Conference (62 Party Conference with Integrated Conference Bridge), Attendant Recall, Automatic Busy Redial, Call Duration Display Timer, Call Forward (nine types), Call Join, Call Park, Call Transfer, Call Waiting, Calling Line Identification, Calling Party Name Display, Charge Account Codes, Controlled Class of Service, DID Route Control, Flash, Hold, Hunting (six types), IP Call Recording, Malicious Call Trace, NAT Traversal, Network Virtual Office Login, Override Position Busy, Personal Directory, Redial List and Callers List, Remote Message Waiting, Ring Again, Trunk Route Optimization – Call Modification, Mobile extension, SIP Hospitality, Dynamic Call Redirect, Bandwidth Management, Active Call Fail-Over, Alternate Call Routing, PVQM, Automatic QoS.

	Signaling Server	CP PM	DELL R300	IBM x3350
Hardware	CPU	Intel Pentium M 738	Intel Quad Core CPU 2.5GHz	Intel Core 2 Quad CPU 2.66GHz
	Memory	2 GB DDR Dram	4GB DDR RAM	4GB DDR RAM
	Mass Storage Media	40GB Fixed Media Disk	250GB GB HDU	250 GB HDU
	Operating System	Linux RedHat V5.1	Linux RedHat V5.1	Linux RedHat V5.1
Software (limits per signaling server)	IP Sets	5,000	5,000	5,000
	H323 Virtual Trunks	1,200	1,200	1,200
	SIP Virtual Trunks	1,800	1,800	1,800
	Personal Directory, Recall List, Call List	22,500	22,500	22,500
	H323 call per hr	40,000	80,000	80,000
	SIP calls per hr	40,000	80,000	80,000
	NRS calls per hr	100,000	200,000	300,000
	Endpoints per NRS	5000	5,000	5,000
	Routing entries per NRS	20,000	20,000	20,000
SIP line gateway / SIP Clients	1,800	1,800	1,800	

Trunking	
Supported Trunks	<ul style="list-style-type: none"> • IP: IP Virtual Trunks using IP Peer Networking over H.323 or SIP • Digital: DTI, ISDN-PRI, ISDN-BRI • Analog: Loop and Ground Start CO, FX, WATS, two or four wire E&M, four wire DX, DID, TIE, RAN Paging
Network Signaling Protocols	H.323v4, MCDN, SIP, LDAP, QSig, QSS, in band and DPNSS

Phones & Clients

IP Phones & Clients	<ul style="list-style-type: none"> • 1100 Series IP Deskphones, 1200 Series IP Deskphones, 2000 Series IP Deskphones • 1535 IP Deskphone • 2033 IP Conference Phone • 3456 UC Client, 2050 IP Softphone for Windows PC and 2050 IP Softphone for Windows Mobile • 2200 Series WLAN Handsets, 6100 Series WLAN Handsets • IP Phone/Client Accessories: 1100 Series Expansion Module (18-button); 2000 Series Expansion Module (24-button); 1200 Series Expansion Modules (12/18Key); Enhanced USB Desktop Adapter and Mobile USB Headset Adapter for 2050 IP Softphone
IP Phone Powering Options	802.3af Power over Ethernet, Power over LAN Hub and local AC adapter
Digital Phones	3900 Series Digital Deskphones, 4000 series DECT Handsets
Attendant Services Compatibility	2250 Attendant Console; PC Console Interface Unit (PCCIU) (The PCCIU supports PC-based Attendant software from various third-parties)

Applications

IP Remote Services	<ul style="list-style-type: none"> • Survivable Remote Gateway 50: supports 5-80 survivable IP users • Survivable Remote Gateway 200/400: supports 5-90 survivable IP users • Enterprise Media Gateway 1000B: supports up to 400 survivable IP users in addition to Digital and Analog users. • Remote Gateway 9150: supports up to 32 survivable Digital Telephones • Remote Gateway 9115: supports one survivable Digital Telephone
Unified Messaging	<ul style="list-style-type: none"> • CallPilot 202i IPE: 32 channel/32 MPU capacity, in-skin server • CallPilot 600r: 96 channel/96 MPU capacity, rack mount server • CallPilot 1005r: 192 channel/288 MPU capacity, rack mount server, available redundancy with automatic failover • Unified Messaging 2000: A carrier grade unified messaging application designed to meet the needs of large enterprise customers (25,000 - >100,000 users) • Microsoft Exchange 2007 Unified Messaging
Contact Center	<ul style="list-style-type: none"> • Contact Center – Express: Can be configured for up to 300 agents with up to 100 actively logged on. Busy-hour capacity is 5,000 CPH (configuration dependent). Single server solution, Windows 2003 Enterprise Edition, nodal only. • Contact Center 7.0: Single CS 1000: 3 applications, each configurable up to 10,000 agents with up to 3,350 actively logged on (configuration dependent). Busy-hour capacity: 66,000 calls per hour per application (configuration dependent). Architecture: Attached Server, Windows 2003 Standard or Enterprise Edition. Networked CS 1000's: 30 applications configurable to 300,000 agents with up to 100,000 actively logged on (configuration dependent).
Interactive Voice Response	<ul style="list-style-type: none"> • Media Processing Server 500: Scalable up to eight T1/E1 spans (192/240 ports) in a single system. Multiple systems can be networked together for additional capacity. • Media Processing Server 1000: A single MPS 1000 system starts at 4 digital spans and grows to 384 spans. 96 - 9216 T1 channels or 120 - 11520 E1 channels. 120 - 11520 VoIP channels. Mixed T1/VoIP or E1/VoIP configuration. An extremely compact solution, the MPS 1000 requires approximately 1/8 the floor space of a similarly configured VPS/is system. A system supporting up to 1536 T1 or 1920 E1 channels can be deployed in a single cabinet.
Conferencing	<ul style="list-style-type: none"> • Multimedia Conferencing: A standalone SIP-based reservation-less audio/video conferencing solution for the CS 1000 and also interoperable with Microsoft OCS. Operates on 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.

Applications	
Multimedia	<ul style="list-style-type: none"> • 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 a redundant or non-redundant configuration. 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 (MAS) for optional applications, including Ad hoc and Meet Me Conferencing, Video Conferencing, web collaboration (application sharing), IM Chat, recorded announcements and music on hold. • The 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
IP Telephony Applications	<ul style="list-style-type: none"> • 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 prepackaged, 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 2007 IP Deskphone in guest rooms. Access Services also enables custom development and delivery of content to the 2007 IP Deskphone. • 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 CS 1000. One Application Gateway 2000 can also support multiple CS 1000 systems.
Integrated Applications	<ul style="list-style-type: none"> • 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). • 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 RAN Broadcast software option, 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. • 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. • 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. • 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. • Flash Card Option: Maximum of 16 voice greetings and menus, eight call screening tables, 1000 database name capacity, 14 predefined menus. American English supported. • Hard Drive Option: Maximum of 32 voice greetings and menus, 32 call screening tables, 10,000 database name capacity, 22 predefined menus, 3000 personal verification recordings. Eight languages supported.

Applications

Wireless & Mobility	<p>Hardware: 2200 Series WLAN Handsets, 6100 Series WLAN Handsets</p> <ul style="list-style-type: none"> • 2245 WLAN IP Telephony Manager • 2246 WLAN Application Gateway: optional SVP WLAN Infrastructure • Media Card (or software upgraded IP Line card) and Signaling Server(same requirements as for 2004 IP Deskphone) • 128 users per IP line card; up to 5,000 IP users per Signaling Server <p>Software: Minimum release of CS 1000 software supported is 4.0</p> <p>Hardware: 4000 Series DECT Handsets</p> <ul style="list-style-type: none"> • DMC8 and DMC8-E cards, 4600, 4610 and 4610E Base Stations. • Software: All CS1000 Releases supported. <p>Hardware: 4000 Series DECT Handsets (SIP)</p> <ul style="list-style-type: none"> • 4710 and 4710E DECT Access Points • Software: Minimum release of CS 1000 software supported is 5.5. • 3100 Mobile Communicator: Extends CS 1000 telephony features to mobile smart phones. Two user-side deployment options: a 3100 Mobile Communicator 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' 3100 Mobile Communicator WebUI that can be accessed by any browser-equipped mobile device (phone or PC) including Apple iPhone and Palm Pre.
Management	<ul style="list-style-type: none"> • Unified Communications Management Solution (UCM) can support up to 1000 elements in a CS 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 is 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. • 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 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 & 2003, and Sun Java System Directory Server.

System Capabilities

Standards and Protocols Supported	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.
Mechanical Standards	Call Servers and Media Gateways (including the Media Gateway Expansion) comply with Bellcore GR-63-CORE. Signaling Server complies with Mil Std 810E Method 516

System Redundancy and Survivability Options

Signaling Server	Unistim TPS - Load balanced with active failover Network Redirect - Primary, Secondary, Failsafe Automatic Failover SIP Proxy - Primary, Alternate - Active/Active Failover SIP and H.323 Gateways - Automatic Trunk Failover
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System Redundancy and Survivability Options

Call Server <ul style="list-style-type: none"> • Call Processor(s) • Geographic Redundancy • Campus Redundancy 	Redundant Optional No
Media Gateways <ul style="list-style-type: none"> • MG 1000B (Branch) 	Survivable Call Server

Environmental

Operating environment	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, Media Gateway, Media Gateway Expansion Ambient Temperature: Recommended: 15-30 degrees Celsius (59-86 degrees Fahrenheit) – Absolute 0-45 degrees Celsius (32-113 degrees Fahrenheit) – Relative Humidity (%) without condensation: Recommended: 20%-55% – Absolute: 10%-95%	
Input Voltage	COTS Signaling Server: <ul style="list-style-type: none"> • AC: 110-240V, 50/60 Hz, auto-sensing • DC: N/A 	
	Call Server: <ul style="list-style-type: none"> • AC: 110-240V, 50/60 Hz • DC: N/A 	
	Media Gateway: <ul style="list-style-type: none"> • Integrated MG/IPE Module • AC: 110-240V, 50/60 Hz • DC: -48V • (MG 1000 and Expansion) • AC: 110-240V, 50/60 Hz • DC: -48V 	
Power Consumption	COTS Signaling Server: DELL R300 <ul style="list-style-type: none"> • Watts: 400 • Heat Output: Maximum 1365 BTU/hr IBM x3350 <ul style="list-style-type: none"> • Maximum Watts: 400 • Heat output: Minimum 396 Btu/hr (120 watts), Maximum: 1365 Btu/hr (400 watts) 	Media Gateway: Integrated MG / IPE Module: <ul style="list-style-type: none"> • Watts: 460 • Heat (BTU/hr): 1569 MG 1000 and Expansion: <ul style="list-style-type: none"> • Watts: 300 • Heat (BTU/hr): 1024

Environmental		
Dimensions and Weights	COTS Signaling Server: DELL R300 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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: (Core/Net Modules) <ul style="list-style-type: none"> • Top Cap: • Width: 32 in. (812 mm) • Depth: 22 in. (559 mm) • Height: 4 in. (101 mm) • Weight: 15 lb. (6.8 kg) 	Media Gateway: Integrated MG / IPE Module <ul style="list-style-type: none"> • Top Cap: • Width: 32 in. (812 mm) • Depth: 22 in. (559 mm) • Height: 4 in. (101 mm) • Weight: 15 lb. (6.8 kg.)
	Module(s): <ul style="list-style-type: none"> • Width: 32 in. (812 mm) • Depth: 22 in. (559 mm) • Height: 34 in. (864 mm) • Weight: 380 lb. (117.8 kg) 	Module: <ul style="list-style-type: none"> • Width: 32 in. (812 mm) • Depth: 22 in. (559 mm) • Height: 17 in. (432 mm) • Weight: 190 lb. (58.9 kg.)
	Pedestal: <ul style="list-style-type: none"> • Width: 32 in. (812 mm) • Depth: 26 in. (660 mm) • Height: 10 in. (254 mm) • Weight: 70 lb. (31.7 kg) 	Pedestal: <ul style="list-style-type: none"> • Width: 32 in. (812 mm) • Depth: 26 in. (660 mm) • Height: 10 in. (254 mm) • Weight: 70 lb. (31.7 kg.)
		MG 1000 and Expansion <ul style="list-style-type: none"> • 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.)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.



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