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PRODUCT  
BRIEF

# Avaya Communication Manager

## The Foundation of Intelligent Communications

Intelligent Communications is the ability to bring people into business processes when needed - not just any people but the right people, at the right time, using the right medium. Intelligent Communications is accomplished by linking business applications, communications applications and people over any network. People are made more productive by giving them greater capabilities and the ability to control their communications experience, processes are made more efficient by reducing human latency, and customers are more satisfied because businesses can be more responsive to their needs.

To effectively deploy Intelligent Communications, enterprises need a converged voice and data network based on IP telephony that is reliable, efficient, scalable and able to support new communications capabilities that drive innovation, profitability and customer satisfaction.

Avaya Communication Manager software provides the open, highly-available and extensible IP Telephony foundation on which enterprises large and small can deliver Intelligent Communications, now and into the future.

### Enabling the Virtual Enterprise

The enterprise is becoming far more distributed than ever before. Most employees now work outside the main headquarters location in branch offices, home offices or from the road. The virtual enterprise has become a reality, with work becoming what you do rather than where you go. And for the ever more mobile and dispersed workforce to remain productive, they need access to the same communications tools that are used by those in headquarters.

Avaya Communication Manager takes advantage of distributed IP networks to extend powerful communications applications to employees throughout the enterprise. A single server running Communication Manager can be deployed in a data center or other central location and the entire enterprise can have access to the same communications tools from every location. Employees can work efficiently from home, on the road, at branch offices, or from headquarters and spend more time working productively rather than learning disparate systems. The distributed enterprise can communicate and operate as one integrated entity.



## Avaya Communication Manager Overview

Communication Manager is Avaya's flagship IP Telephony software platform. It contains robust call processing capabilities, advanced workforce productivity and mobility features, built-in conferencing and contact center applications, and support for a variety of wired and wireless end-user communications devices. It delivers over 700 individual features that can be used in a variety of ways to make employees more productive, processes more intelligent and customers more satisfied.

Communication Manager supports industry standard protocols such as Session Initiation Protocol (SIP) to ensure compatibility with multiple vendors' IP network infrastructure, communications devices and application software. It offers a variety of high-availability and security features to ensure business continuity under adverse conditions. It uses an extensive set of management tools that simplify deployment and ongoing maintenance of the telephony infrastructure in enterprises with many locations.

Communication Manager can be delivered across a variety of Avaya server and media gateway platforms to meet the diverse requirements of small to larger enterprises. Server platforms range from the S8300, with capacity for up to 450 users, to the S8500, with capability for up to 2400 users, to the S8730 server pair, with capacity for as many as 36,000 users. A variety of gateways are offered; some which serve the needs of branch offices (G250, G350, G450, IG550) and others which serve the needs campus environments (G650, G450). All support a multitude of network interfaces and multi-level survivability options that help mitigate concerns around business continuity

### Multi-Level Business Continuity

While IP telephony solutions have many benefits in terms of flexibility and reach, they can be vulnerable to IP network failures and outages. Telephony is a mission-critical application for every enterprise. Loss of telephony service translates into lost employee productivity and lost business opportunities.

Avaya Communication Manager-based IP Telephony solutions have been architected to be self-healing when subjected to network outages, hardware failures and other events. This minimizes the disruption to the business when an outage occurs. In fact, over 1/3 of Avaya Communication Manager software is dedicated to fault detection, isolation and recovery. And every new release of Communication Manager includes continued investment in resiliency and minimizing business disruption.

Specific business continuity capabilities include:

#### Transparent Server Failover

Avaya offers Communication Manager running on a pair of redundant, hardened Linux servers. One is the primary server and the second is the backup server. The servers can be separated from each other over a high speed Ethernet or dedicated fiber link, allowing them to be on different



floors or even different buildings within a campus. Should the primary server fail, the backup server immediately takes control and preserves any calls in progress as well as any in-call features (such as conference, transfer or hold). This failover is transparent to users.

### Redundant Interfaces

Avaya offers multiple IP interfaces with hot-standby redundancy to minimize the impact of local network failures. Again, this failover is transparent to users.

### Geographically-Separated Redundant Servers

Because system and network failures are not always local, Avaya offers Enterprise Survivable Servers (ESS); backup servers that can be implemented anywhere in the enterprise and provide redundancy for either all or part of the IP telephony solution. If the primary server pair cannot be reached by an IP telephony endpoint, perhaps due a WAN link failure, the endpoint can automatically obtain service from an ESS in another location.

### Branch Office Survivability

Branch offices and remote locations often have challenges remaining connected to the main location or data center. To prevent WAN problems from leaving branch locations without service, Avaya offers two levels of branch survivability. Standard Local Survivability

(SLS) is built into the branch office media gateways that Avaya offers with Communication Manager. SLS provides basic calling features and PSTN connectivity for those in the branch when connection to the primary server, or Enterprise Survivable Server, is lost. Enhanced Local Survivability (ELS) requires a Local Survivable Processor, which offers the branch full-featured survivability when the connection is lost. Failover to either SLS or ELS is call preserving.

### Voice Quality Monitoring and Management

Avaya not only provides failover capabilities for hard network failures but also provides tools that help monitor network conditions that adversely impact voice quality and provide corrective actions should latency, jitter packet loss thresholds be exceeded. For example, VoIP Monitoring Manager is a capability that monitors voice streams for latency, jitter and packet loss between Communication Manager and associated endpoints. Intergateway Alternate Routing is a capability that re-routes calls to the PSTN should IP network conditions deteriorate.

## Security

While IP Telephony enables tremendous opportunity for improved efficiency and effectiveness, corporate data security policies must be extended to IP-enabled voice equipment. New network security concerns arise as IP telephony introduces unauthorized entry points into the network. Avaya has designed Communication Manager and associated network devices to reduce their susceptibility to malicious attacks and protect critical voice communications from being compromised. By using Avaya's multilayer hardening strategy, Avaya solutions are secure by design, secure by default and provide secure communications.



**Secure by Design**

“Secure by design” refers to Avaya’s policy of separating the Communication Manager-based telephony servers and associated communications services from the rest of the enterprise network and isolating them from viruses, worms, Denial of Service (DoS) and other malicious attacks.

**Secure by Default**

“Secure by default” refers to the hardened Linux operating system that Avaya Communication Manager-based telephony servers use. Only those services and access ports necessary for the secure, real-time telephony processing are turned on, further reducing the susceptibility to malicious attacks.

**Secure Communications**

“Secure communications” refers to Avaya’s policy of ensuring that voice communications remain private. Avaya Communication Manager-based solutions use media encryption between servers, gateways and endpoints to ensure the voice stream is secure and signaling encryption to protect information like caller and called party numbers, user passwords, and other sensitive information from prying eyes.

**Enhancing Workforce Productivity**

Communication Manager offers a host of features delivered across a variety of client devices that help make employees more productive wherever they might be working. End users can:

**Handle incoming calls effectively**

The Call Coverage feature automatically redirects calls based on preset criteria such as time of day or type of call; Send All Calls allows users to temporarily redirect all incoming calls to coverage; priority queuing, backup alerting, timed reminders, and attendant vectoring help attendants route calls effectively even in the peak traffic hours; a night-service console provides you with options in handling incoming callers after normal business hours.

**Increase efficiency**

Abbreviated Dialing, Last Number Dialed, and Internal Automatic Answer are simple to use features that can save your enterprise hundreds of hours of call set up and answering time; Integrated Directory gives display telephone access to the system database for one-touch extension dialing; Intelligent Call Routing sends calls along the best and most efficient path based on your rules or the time of day.

**Improve collaboration**

Meet Me Conferencing replaces third-party services by providing pre-established bridge numbers; encrypted signal links provide greater security for sensitive conference calls. Group Paging enables speakerphone announcements to preset user groups. Combining Communication Manager, Avaya SIP Enablement Services software and the Avaya IP Softphone for secure Instant Messaging (IM) with a presence-enabled contact list can be used to increase access and collaboration.



## Intelligent Clients and Devices

Avaya Communication Manager supports an extensive portfolio of IP, wireless, digital and analog telephones and client applications for a number of communications devices.

Highlights include:

### Extension to Cellular and Avaya one-X™ Mobile

The Extension to Cellular feature of Avaya Communication Manager connects callers to mobile employees wherever they are. Extension to Cellular transparently bridges calls to any mobile phone over any wireless carrier network, providing employees with one business number access. Productivity enhancing Communication Manager features like conference calling and call transfer are also extended to mobile phones.

The Avaya one-X Mobile client application enhances Extension to Cellular to provide a simple to use interface for accessing Communication Manager features from mobile phones running Symbian or Microsoft Windows Mobile operating systems.

### Avaya one-X™ Deskphone 9600 Series IP Telephones

The Avaya one-X Deskphone 9600 Series IP Telephone family has been designed to provide the right phone for the right job and meet the specific communications needs of different workers. Created by users for users, the 9600 series features an intuitive user interface which helps make users proficient and confident in performing common telephone tasks such as setting up a conference call or completing a transfer. With enhanced high-fidelity audio, it's much easier to hear and understand others, which speeds business while reducing fatigue and stress. These telephones are available with both H.323 and SIP firmware.

### Avaya 3600 Series Wireless Telephones

Avaya offers a portfolio of WLAN telephones optimized for premises-based mobile communications. These can be deployed in hospitals, retail stores and warehouses where employees must be mobile within the building.

## Avaya IP Softphone

Avaya IP Softphone is a flexible tool for accessing and managing all business telephony communications from any location with Internet access. It can operate on its own as a powerful telephone soft client or it can work with Microsoft Office Communicator to provide integrated telephony and instant messaging presence and enable click to call from an entry in a buddy list, an email, or a smart tag. Avaya IP Softphone also integrates easily with desktop and group video applications, making videoconferencing as easy as a phone call.



## Open Standards

By supporting open standards, Avaya allows communications to be embedded into business processes, and enables more value to enterprises. Additionally, support of open standards helps Communication Manager integrate with applications and solutions provided by an extensive ecosystem of Avaya Developer*Connection* partners.

### Session Initiation Protocol

Avaya was an early adopter of the Session Initiation Protocol (SIP) and continues its active role in the evolution of the industry as well as expanding the definitions and uses of the SIP open standard. Avaya is leveraging SIP to improve the connectivity and openness of Communication Manager and associated end-user devices, resulting in reduced costs for trunking and connecting systems, faster deployment of new functions and enhanced options for linking communications with business processes to increase competitive advantage. Additionally, SIP delivers presence, an application that lets users inform others of their status, their availability, and how they can be contacted — before a communication session even begins. Avaya Communication Manager provides the right foundation for deploying end-to-end SIP today or addressing future migration to SIP-based communications.

### End-to-end Standards-based Application Integration

Linux based Communication Manager software provides integration of old (TSAPI, JTAPI, CSTA) and new (Web Services and Service-oriented Architecture) standards. These interfaces expose the functionality of Communication Manager to an ever-expanding developer and system integrator community. Resulting applications communications-enable business processes, making it possible for enterprises to create more agile, responsive organizations.

## Simplified Network Management

The Avaya Integrated Management suite provides a comprehensive set of tools that makes it easy to deploy, manage and maintain a complex, distributed Communication Manager-based IP Telephony network. Avaya Integrated Management applications are designed to simplify system administration, provisioning and network management, as well as fault and performance management operations. As a result, Avaya Integrated Management helps improve network uptime, increase staff productivity and reduce operating costs.

## Avaya Global Services for Communication Manager

### Consulting and Systems Integration

Avaya employees a standard, time-proven delivery approach to support every customer implementation. Avaya Consulting and Systems Integration Services link technology investments to business strategy to help get the most value from Communication Manager-based solutions.

### Ongoing Supportability

Critical to any technology investment is ongoing support of the complete solution, so that uptime, security and operational effectiveness are maximized. Avaya Global Services and our BusinessPartners have a complete range of services offerings that provide supportability of software, hardware and the converged environment.

**Software Support Plus Upgrades** provides 24x7 remote technical support for major problems, as well as easy access to all minor releases, powerful online tools and services packs. It also includes a three year subscription to major upgrades, which not only results in major savings but also assures that customers always have access to the most secure and reliable solution available. Avaya also has additional support options available, including remote monitoring and management of the converged environment and software release management.

## Avaya Communication Manager Capabilities

Employee Productivity	Endpoint Devices	Networking
<ul style="list-style-type: none"> <li>• Call Coverage</li> <li>• Send All Calls</li> <li>• Priority Queuing</li> <li>• Backup Alerting</li> <li>• Timed Reminders</li> <li>• Attendant Vectoring</li> <li>• Abbreviated Dialing</li> <li>• Last Number Dialed</li> <li>• Internal Automatic Answer</li> <li>• Integrated Directory</li> <li>• Universal Access—Phone Status</li> <li>• Intelligent Call Routing</li> <li>• Multi-party Conferencing (up to 300)</li> <li>• Meet-Me Conferencing</li> <li>• Group Paging</li> <li>• Remote Call Coverage/Forward Off-Net</li> <li>• Personal Station Access</li> <li>• Automatic Call Distribution (ACD)</li> <li>• Enterprise Mobility User</li> <li>• SIP Visiting User</li> <li>• Team Button</li> </ul>	<ul style="list-style-type: none"> <li>• SIP Telephony Support with SIP Enablement Services (SES)</li> <li>• Avaya one-X™ Deskphone 9600 Series IP Telephones</li> <li>• Avaya 1600 Series IP Telephones</li> <li>• Avaya 3600 Series IP Wireless Telephones</li> <li>• Avaya IP Softphone</li> <li>• Avaya one-X Mobile</li> <li>• Avaya one-X Desktop</li> <li>• Avaya one-X Speech</li> <li>• Avaya one-X Portal</li> </ul>	<ul style="list-style-type: none"> <li>• Q.Sig Management</li> <li>• 13-Digit dial plan</li> <li>• T.38 fax over IP</li> <li>• Modem over IP</li> <li>• SIP Trunking</li> </ul>

### Learn More

To learn more about how Avaya Communication Manager can support your business, please contact your Avaya Client Executive, Avaya Authorized BusinessPartner or visit us on our web site at [avaya.com](http://avaya.com).

### About Avaya

Avaya delivers Intelligent Communications solutions that help companies transform their businesses to achieve market-place advantage. More than 1 million businesses worldwide, including more than 90 percent of the FORTUNE 500®, use Avaya solutions for IP Telephony,

Unified Communications, Contact Centers and Communications Enabled Business Processes. Avaya Global Services provides comprehensive service and support for companies, small to large. For more information visit the Avaya Web site: <http://www.avaya.com>.

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