Avaya IP Telephony Solution Overview

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ALGOTECH
Company presentation
**Year Established:** 1992  
**Number of employees:** 55  
**Number of engineers:** 25  
- Certified Avaya engineers: 15  
- Certified Extreme Networks engineers: 5  
- Certified Audio Codes engineers: 3  
- Certified Nice Engineers: 4  
**Annual revenue:** 5M $  
**2008/2009 Deloit&Touch:** 50 CEE Fast growing company  
**ISO standard:** ISO9001, ISO14001, ISO18001
## Solution Expertise

<table>
<thead>
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<th>Service</th>
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<tr>
<td>Contact/ Call Center</td>
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<td>Unified Communications</td>
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<td>IP Telephony</td>
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<td>Traditional telephony - PBX</td>
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<td>Video conferencing</td>
</tr>
<tr>
<td>LAN and WAN infrastructure</td>
</tr>
<tr>
<td>Security</td>
</tr>
</tbody>
</table>
Industry expertise

Scope of services
- Consult
- Design
- Build
- Operate
- Maintain
- System Integration
- Systems Integration

Customer fields of industry
- Finance sector
- Public administration
- Telecom / Service Providers
  - Airports
- Chemicals / Pharmaceutical
- Defense and Intelligence
- Healthcare
- Manufacturing & Utilities
Partneri

- Avaya
- Cisco
- Nice
- CA
- Altitude
- Teleopti
- Life Size
- Extreme networks
- IBM
- HP
88% udela u tržištu Call centara Srbije
Algotech je pionirska firma sa 30% udela u tržištu IPT npr. Raiffeisen banka (100 lokacija), PTT (70 lokacija)...

Kompletna IT rešenja u Grossoptic, Zira, Blic, Sumadija, Gorenje, grad Novi Sad
- Raiffeisen bank
- AIK banka
- Banca Intesa
- Delta Generali Insurance
- EFG bank
- Findomestic bank
- First Data
- Hypo Alpe Adria Bank
- Komercijalna banka
- Marfin bank
- Srpska banka
- ALICO
- Uniqqa
- Unicredit Bank
Reference

- Telekom Srbija
- Telenor
- SBB
- EUenet
- Huawei
- MTEL
- Pošta
- RATEL
- Trizma
- Targo Telecom
- DHL
- Belgrade Airport “Nikola Tesla”
- Sajam
- Sava Center
- Energoprojekt
- Hemofarm
- Grad Niš
- Toyota

Reference
Ino reference

- UPC
- American Express
- Citi bank
- General Electric
- HVB bank
- ING bank
- Vodafone
- Transcom
- Unicredit bank
- Telefonica O2
- T-Mobile
- E-ON
Avaya Global Overview
Avaya Global Footprint

- **17,500 employees**
- **Headquarters:** Basking Ridge, NJ
- **Presence in 54 countries**
- **2500 Business Partners**
- **32 Global Delivery Support Centers**
- **17 Exec Briefing Centers**
- **24 Training Centers**
Annual Revenues Exceed $5B

42% International
57% through 2,500+ partners worldwide

Sources: IDC, Synergy, Infotech, Frost and Sullivan and others
(1) Worldwide patents, including pending applications
AVAYA Strengths

- Strong Product Reputation
- Known for Reliability
- Respected Brand
- Leading Market Position in CC
- Best User Interface
- Great Channel
- Great People
Avaya Innovation & Research

Avaya Labs Rich In Heritage

- Industry leading 4400+ patents or patents pending
  - ~75% of R&D is software based
  - 60% of these patents are in the Unified Communications field
- Avaya Labs Locations in Australia, Germany, India, Israel, Japan, Singapore, U.K., U.S.

4,200+ Independent Software Vendors who build applications on Avaya

Note: Product revenue excludes Rental and AFS/IP
Leadership Positions

Unified Communications

Gartner Magic Quadrant
* Enterprise Comm Leader
* UC Challenger
#1 Converged Telephony 25% share
#2 IP Telephony 20% share
#1 Unified Messaging 21% share
#1 Audio Conferencing 28% share

Contact Center

Gartner Magic Quadrant
Customer Service Leader
#1 Call Center /ACD 40% share
#1 Outbound Dialers 28% share
#1 Voice Response 23% share
#2 CTI 16% share

Small & Mid Enterprise

#1 Communications Solution measured by lines shipped for companies <100 users
#1 in Key-Hybrid Revenue Worldwide for companies <100 users


Notes: * Results are North America  **Results are Asia Pacific

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• Three Layer Functional Model
Communication System Functions

- Application
- Connection Mgmt
- Access
Evolution of Communication Architecture

Pre-2001

- Application
- Connection Mgmt
- Access

2002-2007

- Application
- Connection Mgmt
- Access

2008+

- Application
- Connection Mgmt
- Access
Evolution of Communication Architecture

Pre-2001

- Application
- Connection Mgmt
- Access

2002-2007

- Application
- Connection Mgmt
- Access

2008+

- App
- Connection Mgmt
- Access
- App
2001 and Earlier

Key Enablers

- Circuit Switching
- ISDN Signaling
- IN/SS7
- CTI based Pre-Routing
- Standalone ACD
- Standalone PBX
2001 and Earlier: The “3-Tier, Best of Breed” Model

- **1st Tier Network**
  - PSTN Advanced Features
  - PBX
  - ACD

- **2nd Tier CTI based Network Router**
  - Pre-Route
  - Quality
  - WFMS
  - Reporting
  - Dialer

- **3rd Tier ACD**
  - ACD
  - WFMS
  - Reporting
  - IVR
  - Dialer
  - CTI
  - Voice Mail

- **IP WAN**
  - PBX
Evolution of Communication Architecture

Pre-2001

Overlay Signaling

Application

Connection Mgmt

Access

TDM/ISDN

2002-2007

Application

Connection Mgmt

Access

2008+

App

Connection Mgmt

Access

App
2002-2007

Key Enablers

- Voice over IP
- H.323 Signaling
- Integrated ACD/PBX
- CPU Power
- CTI based Applications

- PSTN
- Media Gateway
  - ACD/PBX
  - WFMS
  - IVR
  - CTI
  - Quality
  - Reporting
  - Dialer
  - Voice Mail

Branch Location

Regional/National Offices

IP WAN

Small Office, Home Office, Telecommuter Telecommuters
- Offshore/Nearshore/Outsourced Offices
Evolution of Communication Architecture

Pre-2001
Overlay Signaling

Application
Connection Mgmt
Access
TDM/ISDN

2002-2007
Overlay Apps

Application
Connection Mgmt
Access
H.323
IP

2008+

Connection Mgmt

App

Belgrade Bratislava Bucharest Budapest Prague Warsaw
Key Enablers

- SIP and Web Services
- Session Management
- Internet Architectures
- VXML and CCXML
- ECLIPSE Tooling
- Low Cost Bandwidth
2008+: Transform Connection Mgmt and CTI with SIP

- G860
- Regional/National Offices
- Distributed Office
- Branch Location
- Session Border Controller
  - ACD/PBX
  - Quality
  - WFMS
  - Reporting
  - IVR
  - Dialer
  - CTI
  - Voice Mail
  - Session Manager
- Home Office
  - Telecommuter
  - Mobile Worker
- Offshore/Nearshore Outsourced Offices
- IP WAN
- Belgrade
- Bratislava
- Bucharest
- Budapest
- Prague
- Warsaw
2008+: Compose and Orchestrate

SIP

Session Border Controller

SIP/SOA SDP

Business Orchestration
- Contact Ctr
- IP Comms
- Mobility
- Collaborate

Application Composition

Connect
- ACD/PBX

Record
- Quality

Schedule
- WFMS

Report
- Reporting

Interact
- IVR

Contact
- Dialer

Message
- Voice Mail

Locate
- CTI

IP WAN

Distributed Office

Regional/National Offices

G860

Branch Location

Home Office
Telecommer
Mobile Worker

Offshore/Nearshore
Outsourced Offices

Dialer

Session Manager

Belgrade  Bratislava  Bucharest  Budapest  Prague  Warsaw
2008+: Transform Connection Mgmt, Compose Applications, and Orchestrate Business Processes
Avaya IP Telephony Portfolio

Communication Manager Software

SIP Enablement Services

Services
- Network Assessments
- SMB & Branch Solutions
- CM Solutions Phone Apps
- Nw Readiness
- Empirix Performance Assurance
- Software Support + Upgrades
- Proactive IP Support
- Remote Mgd Services
- IP Converged Services
- Software Support Plus Upgrades

Integrated Management Suite

Communication Devices

Unified Communications - Mobility Solutions Extension to Cellular, Softphones, Clients

16xx Series Value Edition

36xx Series – Wireless & IP DECT R4

96xx Series - H.323 / SIP

Communication Manager Software

96xx Series - H.323 / SIP

36xx Series – Wireless & IP DECT R4

16xx Series Value Edition

Unified Communications - Mobility Solutions Extension to Cellular, Softphones, Clients

16xx Series Value Edition

36xx Series – Wireless & IP DECT R4

96xx Series - H.323 / SIP

Unified Communications - Mobility Solutions Extension to Cellular, Softphones, Clients

16xx Series Value Edition

36xx Series – Wireless & IP DECT R4

96xx Series - H.323 / SIP

Unified Communications - Mobility Solutions Extension to Cellular, Softphones, Clients

16xx Series Value Edition

36xx Series – Wireless & IP DECT R4

96xx Series - H.323 / SIP
Avaya Solution Elements

1. Avaya Communication Manager
2. Avaya Servers
3. Avaya Media Gateways
4. Avaya Integrated Management
5. Avaya Communication Manager applications
6. Avaya SIP solutions
1. Avaya Communication Manager

Communication Manager is the next generation of Avaya call processing software. Communication Manager is an open, scalable, highly reliable, and secure call processing application.
Communication Manager Key Features and Benefits

- **Convergence**—uses Internet Protocol (IP) to enable a natural migration path from today’s separate data and voice networks to a converged network environment using IP

- **Enterprise-Wide Communication Features**—allow customers to centralize call processing and administration onto powerful servers while they extend the full breadth of applications to survivable gateways in campus environments or remote branch office locations

- **Wide-Ranging Protocol Support**—replaces networks of multiple switches with a centrally administered server that controls a network of gateways or port networks, all managed as a single system
• **High Scalability**—can grow along with a business with no need to change an entire system (e.g., can scale to over a million extensions

• **Business Continuity**—powers solutions that can achieve up to 99.999% reliability through the use of duplicated server interfaces and network links:
  – The Avaya Enterprise Survivable Server solution gives businesses the flexibility of consolidation by providing increased survivability options.
  – A variety of new enhancements to enhance availability and survivability include Inter-Gateway Alternate Routing (IGAR), Locally Sourced Announcements and Music, Auto Fallback to Primary for H.248 Gateways, and Modem Dial-up the G350 and G250 Media Gateways.
  – Uninterrupted branch communications are improved with Standard Local Survivability on the G250 Media Gateways and Connection Preserving Failover/Failback for H.248 Media Gateways.
2. Avaya servers

An Avaya server provides centralized, enterprise-class call processing. This call processing can be distributed across a multi-protocol network (including IP) to support a highly diversified network architecture that consists of headquarters, branch, remote, small, and home offices.
Server Blades CM 6

HP/Dell (Common Servers)
- 41,000 (18,000 IP) Stations / upto 600,000 BHCC / Stateful Fail over

HP/Dell Simplex
- Up to 100,000 BHCC

S8300D
- 900 Stations / 10,000 BHCC

Scalability

Performance
The Avaya servers are Linux-based servers. These servers support:

- Distributed IP Networking and centralized call processing across multi-service networks
- Dual server design with hot fail-over (S8 700, S8800-series Server only)
- Redundant LAN Interfaces and remote survivable call processing
3. Avaya Media Gateways

Are stackable and modular hardware elements that deliver application enabling voice, data, fax, video, and messaging capabilities to network. They house hardware elements such as control interfaces and port interfaces routing both bearer and signaling traffic routed between packet-switched and circuit switched networks.
Media Gateways

- **Current offerings:**
  - G650
  - G450
  - G430
  - Mediant 3000 (US and Canada)
  - B5800
- **No longer sold:**
  - G250
  - G350
  - G150
  - G600
  - G700
  - CMC1
  - SCC1
  - MCC1
  - G860 - Was Available in U.S.A
Communication Manager running on Avaya servers controls voice and signaling over a variety of stackable and modular Media Gateways.

The Media Gateways contain the network and the endpoint interfaces, as well as call classification, announcement boards, and so on. Through these interfaces, Communication Manager performs gateway/gatekeeper functions.
4. Avaya Integrated Management

Avaya Integrated Management is systems-management software for managing converged voice and data networks.
5. Avaya Communication Manager applications

Avaya Communication Manager supports the following communication capabilities and applications:

- Call Center
- Messaging
- Unified Communication
- Conferencing systems
- Video Telephony Solutions
- Computer Telephony Integration (CTI)
- Application Programming Interfaces (APIs)
- Etc.
Session Initiation Protocol (SIP) is an endpoint-oriented messaging standard defined by the Internet Engineering Task Force (IETF). SIP is a text-based protocol, similar to HTTP and SMTP, for initiating interactive communication sessions between users.

6. Avaya SIP solutions

SIP "trunking" functionality - allows Avaya Communication Manager to communicate with SIP endpoints and gateways across an IP network. SIP endpoints - Avaya Communication Manager supports SIP endpoints
Avaya Call Processing
Communication Manager traffic flow

[Diagram of communication flow between SES, SIP Phone, Avaya Media Gateways (G650, MCC1, SCC1), Circuit-switched Telephone, IP Communications Device, PSTN, and Avaya G450 with signaling protocols indicated (SIP, CCMS, H.323, RTP Audio, H.248, H.248 Signaling)].
IP Port Network / Media Gateway connectivity

IP PNC allows S8700-series Servers and G650 Media Gateways to be connected over IP networks.

Communication Manager uses the standards-based H.248 media gateway control protocol to perform call control of Avaya Gxxx Media Gateways.
• **Communication Manager implements the gatekeeper routed call model of H.323.**

The registration process allows the endpoint and the Communication Manager gatekeeper to exchange addresses to establish a TCP connection for a “call signaling” channel (the H.323/H.225 channel). Once the TCP connection is established for call signaling, the H.225.0/Q.931 signaling protocol is used over that connection to route the call an exchange addresses necessary to establish a second TCP connection. This second TCP connection is used for “media control” (the H.245 channel).
• **Media stream handling - Media processor circuit packs (VoIP resources)**

**MedPro Card: Media Processor Card**
- Converts TDM based media in IP based and IP to TDM (PCM audio)
- Supports Codecs: G.711, G.729, G.723, G.726
- Supports from 32 to 280 simultaneous sessions
- Dynamically allocated resource
- Encryption and decryption of media
Separation of Bearer and Signaling (SBS)

In an Avaya IP Telephony system, call signaling and bearer traffic may be routed over separate paths. This is useful for a remote branch office with only limited WAN bandwidth back to headquarters. Call signaling traffic can be routed across the WAN, while bearer traffic is sent over the PSTN.
• **Sip Enablement Service server - SES**

- Deployed on IBM x305/x306 servers
- provide SIP networking capabilities and support SIP endpoints
- The main processes on SES are a SIP proxy server, SIP registrar, SIP Event and Presence Server, profile services, and a built-in centralized administration system for all SES servers in a network.
# S8xxx/Common Servers options

duplex-simplex

## HP® ProLiant DL360 G7 & Dell® PowerEdge R610

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<th>Choices</th>
<th>Based On</th>
<th>Alternatives</th>
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<tr>
<td>Processors</td>
<td>Intel® Xeon® 5600 Series</td>
<td>E5620 2.4 GHz, 4-Core</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X5670 2.93 GHz, 6-Core for high requirement applications</td>
</tr>
<tr>
<td>Memory</td>
<td>2 or 4 GB DDR3 RDIMMs @1333 Hz</td>
<td>up to 12 GB per E5620 processor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>up to 24 GB per X5670 processor</td>
</tr>
<tr>
<td>Hard Drive</td>
<td>146 GB SAS 6 GBPS Hard Drive</td>
<td>10K RPM or 15K RPM for high requirement applications</td>
</tr>
<tr>
<td></td>
<td>300 GB 10K for high requirement applications</td>
<td></td>
</tr>
<tr>
<td>RAID Option</td>
<td>HP - P410I RAID Controller w/ 236 MB cache, battery backup</td>
<td>RAID 1 - 2 x 146 GB Drives</td>
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<tr>
<td></td>
<td>Dell - H700 RAID Controller w/ 512 MB cache, battery backup</td>
<td>RAID 5 - 3 x 146 GB Drives</td>
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<tr>
<td></td>
<td></td>
<td>RAID 10 - 4 x 146 GB Drives</td>
</tr>
<tr>
<td>Network Interfaces</td>
<td>4 Integrated ENET Gigabit NIC ports</td>
<td>Standard</td>
</tr>
<tr>
<td>PCI Interfaces</td>
<td>HP - 2 PCI-E Gen 2 expansion slots</td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>Dell - 2 PCI-E risers for Gen 2 slots</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>HP - 460 W AC</td>
<td>HP - 750 W AC, 1200 W DC</td>
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<tr>
<td></td>
<td>Dell - 502 W AC</td>
<td>Dell - 717 W AC with X5670</td>
</tr>
<tr>
<td>USB</td>
<td>HP - 1 front, 2 back, 1 internal</td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>Dell - 2 front, 2 back, 1 internal</td>
<td></td>
</tr>
</tbody>
</table>

*These configurable options will be optimized by Avaya for each application (not customer configurable)*
Scalability duplex servers

- With Communication Manager, Release 5.0, the S8xxx duplex server supports the following scalability:
  - 36,000 stations
  - 12,000 Trunks
  - 8,000 Tone Detectors
  - 9,000 System Announcements
  - 128 Voice Announcement LAN (VAL) boards
  - 414 Attendant Groups
  - 106 CLAN Boards
  - 108,000 Extension to Cellular Enhanced CLID off-PBX station-mappings
  - 600,000 BHCC
S8xxx Duplex Reliability Configuration

- Duplex Servers
- Availability 99.9%
- <9 hours downtime/yr
• Duplex Servers
• Duplex Control Networks and Duplex IPSIs
• 99.99% Availability
• < 53 minutes downtime/yr
S87x0 Critical Reliability Configuration

- Duplex Servers
- Duplex Control Networks and Duplex IPSIs
- Duplex Bearer Networks
- 99.999% Availability
- < 6 minutes downtime/yr
Increased Reliability for IP Telephony

- TN2602AP "Crossfire" module enables Voice bearer duplication over IP
  - Up to 5x9 Critical reliability over IP
  - Close gap with best TDM solutions

- Hot-standby duplication strategy
  - 2 x TN2602AP boards
    - One active, one standby
  - Share single virtual IP address
    - Transparency for other ends

- Very fast switchover (1sec)
  - Calls & features preserving
  - Supports encryption

Unique Redundancy Feature
Protect in real time the Voice path
S8xxx simplex server

- **Includes RAID 1 controllers & 2 HDD**
  - RAID 1 utilizes disk mirroring – creates a set of data on 2 disks
  - Each disk is independent and contains complete copy of data
  - RAID 1 reduces time to service a system
    - Services can replace disk w/o powering down the system
- **Supports up to 2400 stations, 800 trunks**
- **Survivability**
  - Can be deployed as LSP w/Processor Ethernet – no CLANs/IPSIs
  - ESS
- **Optional:**
  - 2nd Power Supply
S8300D Server

S8300D Server is the next generation server in the S8300A/B/C Server line

- S8300D employs new Intel 1.06 GHz Core 2 Duo processor rather than the S8300C’s single core Intel 600 MHz Celeron M processor.
- DRAM increased from 1 GB (DDR1) on the S8300C to 8 GB (DDR2) on the S8300D.
- SSD increased from the S8300C’s 4 GB to 8 GB.
- Hard Drive increased from the S8300C’s 40 GB to 250 GB.
- Added Gigabit NIC connector for use with G450.
- S8300D is RoHS 6/6 compliant.
S8300D Server

• Migration and Upgrade Paths:
  – The S8300D supports migrations/upgrades from S8300A/B/C to S8300D.
  – The S8300C/D will be used for new installs.
• Software compatibilities/incompatibilities:
  – The S8300D requires Avaya Aura™ Communication Manager 5.2 or greater.
  – The S8300D also supports versions of CMM and SES which are compatible with CM 5.2.
• The S8300D may be installed in a G700, a G250, a G350, a G430 or a G450 gateway.
• The S8300D capacities are identical to those specified for the S8300C. Please see the “Avaya Communication Manager System Capacities Table – Release 5.2” on the support.avaya.com web site for a detailed listing of the S8300 capacities
The S87XX-Series Server controls media gateways via separate bearer and control paths. Call control signaling is established from the 87XX-Series Server over an Ethernet connection to an IP Server Interface TN2312 (IPSI) in the media gateway.
The IPSI has the following characteristics:

- Always resides in the tone/clock slot
- 10/100BaseT interface for connection to server
- 10/100BaseT faceplate RJ45 jack for connection to services laptop
- Media gateway clock generation and synchronization (Stratum 4 type II only)
- Media gateway tone generation
- Provides Global Call Classification
- Media gateway packet interface
- Support for IPSI firmware download
- Interface to media gateway TN775D maintenance board
- The TN2312BP IP Server Interface (IPSI) provides environmental maintenance and is the IP server interface supported in the G650.
G650 Media Gateway

- Enhanced Maintenance Bus for better reporting
- AC/DC Power Supply
- Supports Redundant Load Sharing Power Supplies
- Can Support 14 TN Circuit Packs
- Up to five G650s per PN
- Used in lieu of traditional cabinets in new systems
- Used in Conjunction with traditional cabinets in existing systems
- Supports Direct Connect, CSS, ATM, and IP PNC depending on design
Avaya Communication Manager Branch Solutions

- Extending Intelligent Communication Applications throughout the Enterprise

- **Communication Manager Branch Gateways**
  - G450 Gateway
  - G430 Gateway
  - G350 Gateway
  - G250 Gateway
  - IG550 Integrated Gateway
G450 Media Gateway
Scalable, Modular H.248 Platform

- The G450 chassis features field replaceable RAM, DSPs, PSUs, fan tray, and main board module for enhanced reliability
- 8 T1/ E1, 192 Analog/ DCP phones, 240 Voice Channels, 10000 BHCC, 64 announcements, uses existing voice/ WAN MM
G430 Media Gateway

- Modular, H.248 gateway for Enterprise customers
- Up to 150 IP endpoints and 80 agents supported
- Up to 7 x E1 trunks
- SLS, LSP, IA770 and co-res SES all supported

- 1.5µ Expansion Module (EM200) provides additional two slots
  - four extra slots are supported, i.e. two EM200 hot swappable units, providing seven slots in total
The Avaya G350 Media Gateway

Optional: Media Server for Stand Alone operation or Local Survivable Processor (S8300)

One slot for high density (24 port) digital telephone or PoE LAN module

Analog Station & Trunk ports

One LAN and one WAN Ethernet Ports

Console Port, USB & Contact closure

Four (4) Media Module slots for telephone, digital trunk or WAN interfaces

- The G350 gateway can function either as a stand alone system or as a gateway extending a centralized system out to a remote location
- capacities:
  - Standard supports up to 40 telephones and 40 trunks
  - Enhanced supports up to 72 telephones and 60 trunks (CM3.1.2); More than G350 can be installed at one location.
- The G350 has module slots to allow support for multiple configurations
- WAN connections are supported through a WAN Ethernet port or through a media module, both supported by robust WAN routing capability
The Avaya G250 Media Gateway

- The G250 gateway can function either as a stand alone system or as a gateway extending a centralized system out to a remote location
- The G250 gateway is very similar to the G350, but with fixed interfaces
- Analog, BRI, DCP, DS1 models
- WAN connections are supported through a WAN Ethernet port or through an optional media module (T1/ E1 or USP), both supported by WAN routing capability
# H.248 Media Gateway Summary

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>G450</th>
<th>G430</th>
<th>G350</th>
<th>G250</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Stations supported</td>
<td>450</td>
<td>150+</td>
<td>72</td>
<td>12</td>
</tr>
<tr>
<td>Total stations supported with SLS</td>
<td>340</td>
<td>150</td>
<td>72</td>
<td>14</td>
</tr>
<tr>
<td>Legacy stations supported</td>
<td>192</td>
<td>192</td>
<td>72</td>
<td>12 or 14</td>
</tr>
<tr>
<td>BHCC</td>
<td>10,000</td>
<td>2,400</td>
<td>500</td>
<td>150</td>
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<tr>
<td>SRTP and IPSec License</td>
<td>Supported</td>
<td>Supported</td>
<td>Supported</td>
<td>Supported</td>
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<tr>
<td>Announcements and MoH capacity (mins)</td>
<td>45 or 240</td>
<td>45 or 240</td>
<td>15</td>
<td>15</td>
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<tr>
<td>Touch Tone Resources</td>
<td>64</td>
<td>32</td>
<td>15</td>
<td>8 or 16</td>
</tr>
<tr>
<td>VoIP Channels</td>
<td>20 – 240</td>
<td>20 – 100</td>
<td>32</td>
<td>10 or 16</td>
</tr>
</tbody>
</table>
Gateway Survivability

- Enterprise Survivable Server (Survivable Core)
- Local Survivable Processor (Survivable Remote)
- Standard Local Survivability
- Modem Dial-up Backup
What is ESS?

- **Enterprise Survivable Servers** allow backup servers to be placed at various places in your network so that your communications can continue in the event that the main server(s) fails, or when connectivity to the main server(s) is lost.

- **Enterprise Survivable Servers** can be deployed where needed throughout your network to provide increased communications continuity.
  - The IPSI card in the port networks automatically obtains service from an ESS server(s) if the control signal to the main server is lost.

- **Enterprise Survivable Servers** can be connected to ATM, IP and Center Stage Switch (CSS) connected port networks.
ESS - IPSI Control

S8700 Media Server (Main Server)

S8500 ESS (2nd Alternative)

S8700 ESS (1st Alternative)
Catastrophic Main Server Failure

S8700 Media Server
(Main Server)

S8700 ESS
(1st Alternative)

S8500 ESS
(2nd Alternative)
ESS Recovery of Failure

New IPSI Control

S8700 Media Server
(Main Server)

S8700 ESS
(1st Alternative)

S8500 ESS
(2nd Alternative)
Network Fragmentation Failure

S8700 Media Server (Main Server)

S8700 ESS (1st Alternative)

S8700 ESS (2nd Alternative)
Network Fragmentation Failure

New IPSI Control

S8700 Media Server
(Main Server)

S8500 ESS
(2nd Alternative)

S8700 ESS
(1st Alternative)
Network Fragmentation Recovery

S8700 Media Server
(Main Server)

S8500 ESS
(2nd Alternative)

S8700 ESS
(1st Alternative)
Agglomeration Back To Main Server

S8700 Media Server (Main Server)

S8500 ESS (2nd Alternative)

S8700 ESS (1st Alternative)
Considerations

- The ESS priorities are administered and maintained in the main server(s) translations
  - The main server/server pair is always the highest priority server on the list
  - Each entry can consist of an S8700/S8710 server pair or a simplex S8500 server
  - An S8500/B Main can only have S8500/B as ESS servers
- The IPSI will detect a failure of the main server connection when the “keep alive” from the main server fails
- When an ESS takes over for a Main Server, communications capability is lost temporarily for affected port networks non-connection preserving failover
  - Shuffled IP-to-IP calls would stay up
More Considerations

• Recovery to the main server can be scheduled or manual
  – Most customers will prefer manual due to the fact that
    fall-back is not connection preserving
• The ESS server(s) have full translations
• The ESS server(s) synch translations with the primary
  server (pair)
• When an ESS is in control, it will be in a “license error”
  mode until the main server takes over
  – Translations can be changed on an ESS, but they
    cannot be saved
Local Survivable Processor (LSP) Provides 100% of the Avaya Communication Manager Features

- For critical branch operations, an S8300 Media Server can be optionally installed in the local branch gateway to provide 100% of the Avaya Communication Manager feature set
- System translations are regularly downloaded to all branch local processors so telephone, trunking, and system programming is up to date if the local processor needs to take over
Transitioning to/from Back-up Modes

- **Connection Preserving Failover/ Fall back**
  - Existing stable calls where the talk path exists between two or more parties are not dropped when the media gateway fails over to another server or falls back to the primary server.
  - Connection cannot be preserved for:
    - calls that are not in stable state (on-hold, ringing, etc.)
    - calls using IP or ISDN-BRI trunks, or ISDN stations

- **Auto Fall-back to Primary Connection**
  - The G250 or G350 Media Gateway will automatically reconnect to the primary server when available after having failed over to the Local Survivable Processor (LSP).
  - Automatic reconnect can be administered to allow for orderly return to service without manual intervention.
Standard Local Survivability

- Basic telephony is provided at the branch if connection to a server running the Avaya Communication Manager cannot be achieved
- Cost effective survivability for price sensitive customers:
  - No need for S8300
- The gateway continuously attempts to reconnect and when possible will automatically reconnect to a server
- The Provisioning and Installation Manager (PIM) is recommended for
  - configuration
  - configuration sync between CM and SLS
Modem Dial Backup

- Modem dial backup feature provides an alternative backup path to the central location to maintain call control at the branch in the event of WAN Link or Router failure
  - Supports dialup backup to the enterprise-owned routers
  - Supports dial-up to an ISP using IPSec-VPN tunnel

- Supports routing protocols

- The same modem can be used for dial-in by Services when not in use for backup

- only available in the G250/ G350/ IG550
Modem Dial-up Backup - Branch Office Survivability for WAN or Router Failures
Communication Manager 5.2
S87xx Processor Ethernet

Scalable & survivable architecture

S8730 ESS (1st Alternative)

S8510 ESS (2nd Alternative)

63 Enterprise Survivable Servers
Full automated, network wide, disaster recovery

Small Gateways
G450, G430

Local Survivable Processors for G450, G430

Centralised Administration and licensing

Large Gateways
Up to 5 x G650 cabinets/Gateway

Largely removes the need for G650 gateways and multiple CLANs
No loss in functionality or capacities
Smaller, greener footprint

S8xxx Media Server
(Main Server)

S8xxx ESS
(2nd Alternative)

36,000 Stations
18,000 IP stations

Large Gateways
Up to 5 x G650 cabinets/Gateway

Largely removes the need for G650 gateways and multiple CLANs
No loss in functionality or capacities
Smaller, greener footprint
Avaya IPT Telephony Survivability

1. Server Duplication
2. Redundant Server Connections
3. Multiple Gatekeeper interfaces
4. Redundant Media resources
5. Enterprise Survivable servers
6. Local Survivable Servers
7. Inter Gateway Alternate Routing Dial plan transparency
The Road to Unified Communication

- **Yesterday**: Circuits
- **Today**: Packets
- **Tomorrow**: Sessions

**AVAYA aura**
A New Era of Business Communications

Reduce Infrastructure costs
Deliver business agility
Secure loyal customers
The Unified Communications Journey

**Pre 2000**
- IN/SS7 Overlay
- ISDN and TDM

**2000 - Today**
- CTI Overlay
- IP
- H.323

**Today-Tomorrow**
- Peering and Loose Coupling
- SOA
- SIP Presence

Application
Connection
Network
Standalone signaling and control services become a shared set of SIP session management services.

- **PBX**
  - Transfer
  - Conference
  - Bridge

- **ACD**
  - Conference
  - Route
  - Observe

- **IVR**
  - Transfer
  - Prompt
  - Collect

- **Conf bridge**
  - Conference
  - Authorize
  - Record

- **Dialer**
  - Transfer
  - Contact
  - Detect

- **User Profile**
  - Dial Plan
  - CAC
  - Signaling
  - Media
  - Records

- **Common Session Management Services**
Avaya Architecture Roadmap
Platform Evolution for Avaya, Ecosystem and Customers

Before

- Communication Applications
  - AES
  - Voice Portal
  - Intelligent Presence
  - Contact Centre

- Business Applications
  - Communication Services / One X

- Communication Manager
  - SES

- Communications Infrastructure

Today

- Communication Applications
  - AES
  - Voice Portal
  - Intelligent Presence
  - Contact Centre

- Business Applications
  - Communication Services / One X
  - Messaging
  - Audio/Video Conferencing

- Avaya Aura Session Manager

- Communications Infrastructure

Ecosystem
Communication Manager Evolution

Features

Routing

SIP

Routing

Communications Manager

Endpoint Services

Avaya Session Manager

Belgrade  Bratislava  Bucharest  Budapest  Prague  Warsaw
Avaya Aura™ 6.

Centralized dial plan, user management, applications
25,000 locations, load balancing, policy routing
Highly secure (TLS, AAA)
7200 users/ASM x 9
Traditional Trunks

PSTN used to route calls between sites.
Routing reasonably simple to manage.
Cost associated with each call across the PSTN.
Customers wish to minimize

With N number of sites
N trunk groups need to be configured

Move to IP trunking on private infrastructure to reduce call costs
Private IP Trunking

Systems are linked by private or Virtual private IP networks. For each System to have full knowledge of each other routes need to be programmed. Alternate and redundant routing is complex.

With N number of sites, $N^2 - N$ trunk groups need to be configured.
• Systems are linked by SIP trunks, High density central trunking is supported
• Each System has to only know how to route to ASM and PSTN
• With N sites 2 N trunk groups needed
  • I55 R6 SIP trunks supported

• System Manager provides Centralized Network Routing Policy defines Global Dial Plan
• Centralized SIP trunks allow local ISDN to be reduced.
Multi Location Enterprise

Network Centric to Sessions and Services

Collaboration Apps

Video Apps

Data Apps

Apps Integrated

SIP Trunking

Enterprise Network

Alcatel
Paris

Nortel
Manchester

Avaya
London

Nortel
Lisbon

Siemens
Moscow

Avaya 155
Munich

Cisco
Madrid

Avaya 155 (R6)
Munich

Flexible connect users, applications and systems enterprise-wide
Session Manager will be offered as an “Appliance Model”

- New S8800 server now available
- Memory Extension to 8 Gbyte RAM
- Dual Power Supplies and Dual Raid Disks
- Built-in SM100 PCI NIC Card
Avaya Next Generation Architecture Vision

Decoupling the Application/Service from the User

Service or Application from 3rd party (e.g., SP)

Applications are exposed to SIP users as services dependent on their profile

Services can be ‘stringed’ together using standards based SOA and SIP-ISC technologies enabling rapid deployment (sequencing)

Connection

Session Manager

Named Application

Sequenced Application

Video

Voice Portal

Modular Messaging

Meeting Exchange

Presence Server

Call Recording

CM Feature Server

Ego. Call Blocker

Ego. “Mobility” Application

SIP TRUNKS

Access (users)

Belgrade

Users

Moscow

Amsterdam

SFS = SIP Foundation Server

Belgrade  Bratislava  Bucharest  Budapest  Prague  Warsaw
Avaya Aura™ Session Manager

Reliability and Scale
- Massive scale, global SIP connectivity
  - 25,000 locations, 250,000+ users
- Active/active N+1 geo-redundancy
- Distributed “instances”, multiple active connections, very fast recovery

Security
- Secure, TLS encrypted, SIP firewall, SIP packet inspection, hardware accelerated
- Session Border Controllers for boundary

Multivendor Interoperability
- Cisco UCM, Nortel CS1000 adaption modules, more IP-PBX testing to follow
- Avaya Gxxx or AudioCodes SIP gateways for legacy PBX integration
  - Acme Packet SBCs and others
- Further DevConnect testing starting May
- SIP Trunks: AT&T, Verizon, Orange, ...

Applications
- Avaya SIP-ready communications
  - Modular Messaging, Meeting Exchange, Voice Portal, Interaction Centre, etc.
- Agile “feature server” integration
  - SIP-ISC standard (3GPP), “sequencing”
  - Open to third-party feature innovations
- DevConnect ecosystem expanding
- Service Provider value-add over time

Evolution
- Easily add SM to multivendor networks
- A “CM upgrade” for existing customers
- Control access/bandwidth for new apps
Defining “Sequenced Applications”

Powered by Initial Filter Criteria, an IMS capability. Sequenced Applications are new services that can be added to a Communication Core, independent of other services, affecting session origination and session termination.
Avaya Aura™ – Sequenced Applications

e.g. Call Filtering

CM
Termination (user #2)
<to CM>

Session Manager

APP
Termination (user #2)
<to APP>

Origination (user #1)
<to CM>

Termination (user #2)
<to APP>

Origination (user #1)

User #1
Direct Media
User #2

CM
Termination (user #2)
<to CM>
Communication Manager 6.0 Deployment Options

- **Evolution server** is the descriptor for the option of deploying CM 6.0 in the core or remote, in full call model, supporting both SIP and non-SIP endpoints with limited application sequencing
  - H.323/Digital/Analog endpoints register with Communication Manager
  - SIP endpoints register with Session Manager
  - All endpoints receive service from Communication Manager
  - Only supports implicit sequencing (limited application sequencing)
  - Communication Manager employs the full call model
  - Supports all current Communication Manager gateways and Port Networks

- **Feature server** is the descriptor for the option of deploying Communication Manager 6.0 in the core or remote, in half call model, supporting only SIP endpoints with full application sequencing
  - SIP Endpoints register with Session Manager
  - Communication Manager employs the half call model
  - Supports only G450/G430 gateways
  - Supports full application sequencing
Different roles of CM in Avaya Aura™
CM as Evolution Server / CM-ES

- CM is connected to the SM via a SIP-ISC interface.
- Only calls from and to SIP endpoints are routed via the SM.
- SIP endpoints can communicate with all other endpoints, that are connected to the CM.
Different roles of CM in Avaya Aura™

CM as Feature Server / CM-FS

- CM is connected to the SM via a SIP-ISC interface.
- Half call model is required.
- CM only supports SIP endpoints.
- Calls are always routed via the SM.

CM-FS
>= CM5.2.1

SIP-ISC

Session Manager

Avaya Aura™

SIP

SIP
Different roles of CM in Avaya Aura™

CM as Feature Server / CM-FS

- Calls to PSTN are routed from SM directly to PSTN or via a CM-TG.
Avaya Aura™ Communication Manager Templates

- Every release of Communication Manager 6.x will be on the Avaya Aura™ System Platform
- A template is a configuration of applications running on System Platform
  - Simpler and easier to install, configure and manage
Avaya Aura® Solution for Midsize Enterprises

Solution

• Avaya Aura® Solution for Midsize Enterprise, leverages System Platform - virtualizes real-time core communications on a single server
• Extending to advanced collaboration or contact center: add video
• Easy automated installation and management

Benefits

• Save – lowest total cost of ownership
• Serve – best in class customer service and collaboration applications
• Simplify – deployment, management and remote services
• Grow at your own pace
Avaya Aura® Solution for Midsize Enterprise

Applications

- Avaya Aura® Session Manager
- Avaya Aura® System Manager
  - Avaya Aura® Presence Services
- Avaya Aura® Session Border Controller (in April)
- Avaya Aura® Application Enablement Services
- Communication Manager Utility Services
- Avaya Aura® Communication Manager and Communication Manager Messaging
- Avaya Aura® System Platform on an HP Server, SAL, VPN

Media Gateways

Avaya Aura® Solution for Midsize Enterprise
Uses System Platform technology

Avaya Common Server

Target 250 to 1000 users, 10’s of locations

Single path install, fast, less costly

Utility Server including Enterprise Directory Server

Secure remote monitoring (SAL)
Architecture of Midsize Enterprise

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Advantage 1

- **Avaya Aura® platform delivers unified communications in a midsize footprint**

- Take advantage of enterprise applications, but packaged for the midsize market

- Expand with new applications, or advanced collaboration such as video (additional servers)
Is Cost An Issue?

Advantage 2

- **Cost Effective Unified Communications**
- Scalability of single-server base UC platform from 250 to 1000 users

---

**Today for 400 user full UC solution**

- Avaya: 10
- Cisco: 6
- ShoreTel: 4

**Tomorrow with Avaya Aura® Solution for Midsize Enterprise**

- Avaya: 8
- Cisco: 6
- ShoreTel: 4
Advantage 3

- **Cost reduction using virtualization and green footprint**
- Virtualization using Avaya Aura® System Platform
- Reduce the number of servers from 7 to 1
- Reduce the carbon footprint and use of electrical energy to power and cool system
Advantage 4

• **Expand with advanced collaboration and video**

• Conduct SIP-based application trials, before upgrading the enterprise to Avaya Aura® 6.x
  – Avaya Video Conferencing Solution, Avaya Flare™ Experience on Avaya Desktop Video Device

• **Save time and money**
  – Easy installation and streamlined management
Survivable Remote Sites include a local Branch SM and local CM.
96xx SIP Phones register to (1) the main SM, (2) a backup main SM, (3) and the Local BSM.
Local Media services are the local H.248 gateway during sunny rainy day scenarios.
Survivable Branch *Scenario #2: CM-Evolution Server*

- Survivable Remote Sites include a local Branch SM and local instance of CM (these are CM-ESs).
- If there is an WAN outage the phones will failover to the Branch Survivable SM and the local **CM-ES server** will provide feature functionality.
- Local H248 gateways provide media services in both rainy sunny days.
Avaya's commitment to user experience

- **Intelligent access** to intelligent communications
- One experience, simple and practical for the task at hand
- Driving personal productivity and competitive advantage
- Meeting the different needs of different people across many devices and interfaces

**Avaya one-X™ family members**

- one-X Mobile Edition: *Soft client on mobile phones*
- one-X Desktop Edition: *Integrated Softphone on PCs*
- one-X Deskphone Edition: *Next gen IP Phone - context sensitive UI, high fidelity audio*
Changeable faceplates that can be matched to your Corporate personality
9610 – Walkup Profile Use

- Designed for use in a lobby or common area (no speakerphone, no headset interface) supports one line appearance
- Pixel based graphical backlit display
- Supports a WML application interface for Avaya and third party applications
- Wall mountable
- Class 2 PoE
9620 IP Phone - Casual Profile Use

- Backlit Display—3.45” diagonal 1/4 VGA quality gray-scale pixel based with adjustable display angle
- Supports 12 Call Appearances or Administered features
- Three line appearance LEDs
- Full duplex speaker phone
- Wideband audio handset and headset interface
- Ethernet (10/100) line interface with secondary ethernet interface
- POE 802.af compliant class 2 device
- 1 USB, 1 Adapter, and 1 Module interface
- Contacts application (250 entry) with hard button
- Call log (100 entry) with hard button/LED for missed call indication
- H.323 protocol with future support for SIP
- Avaya’s Push API application interface—for phone applications
9630G – Essential Profile Use

Native Gigabit IP Telephone

- Same Features as the 9630 plus native gigabit for the Essential user’s co-located PC
- Supports the use of the SBM24 Button Module
- Class 2 PoE
9630 IP Telephone – Essential Profile Use

- Features
  - Wideband Hearing Aid Compatible Handset Supporting TTD Acoustic Coupler
  - Standards-Based Wideband Codec
  - Full Duplex Wideband Speaker Phone
  - Message Waiting Indicator
  - Four Contextual Softkeys
  - Four Way Navigation Cluster Button
  - Telephony Application (hard button)
  - 250 Entry Contacts Application (hard button)
  - 100 Entry Call Log Application (hard button with LED for Missed call indication)
  - Forward/Mobility Button
  - Avaya Menu Button (Browser, Options and Settings access)
  - Mute Button
  - Speaker Button
  - Volume Button
  - Message Button (LED)

- 3.8” Diagonal ¼ VGA Quality Gray-Scale Pixel Based Display
- Six Line Appearance Buttons with LEDs
- Adjustable Display Angle
- WML Application Interface
- Innovative Dual Position Flip Stand
- Wall Mountable
- 10/100/1000 Ethernet Line Interface with Secondary Ethernet Interface
- Two Adapter Interface
- One Module Interface
- Supports use of up to three 24 Button Module*
- One USB Interface
- PoE 802.af Compliant Class 2 Device
- Customizable Faceplate

*Requires Communication Manager Release 4.0
9640 - Essential Profile Use

Color Display
9650 - Navigator Profile Use

- Designed to meet the needs of an Administrative Assistant or Receptionist for improved call handling and call management
- Provides 11 one touch buttons for quick access to Communication Manager features or call appearances
- Supports 24 call appearance/CM features, standards-based full duplex wideband speakerphone, two adapter interfaces, headset interface and a WML Application interface
- Supports the use of the SBM24 Button Module
- PoE Class 2
9650 IP Telephone – Navigator Profile

Use

- Volume Button
- Message Button (LED)
- 3.8” Diagonal ¼ VGA Quality Gray-Scale Pixel Based Display
- One Appearance Buttons with LEDs
- Adjustable Display Angle
- WML Application Interface
- Innovative Dual Position Flip Stand
- Wall Mountable
- 10/100/1000 Ethernet Line Interface with Secondary Ethernet Interface
- Two Adapter Interface
- One Module Interface
- Supports use of up to three 24 Button Module*
- One USB Interface
- PoE 802.af Compliant Class 2 Device (Aux power available)
- Customizable Faceplate

*Requires Communication Manager Release 4.0

Features

- Wideband Hearing Aid Compatible Handset Supporting TTD Acoustic Coupler
- Standards-Based Wideband Codec
- Full Duplex Wideband Speaker Phone
- Message Waiting Indicator
- Four Contextual Softkeys
- Four Way Navigation Cluster Button
- Eight Aux Buttons (CM Features/Call Appearances)
- One Aux Shift button
- Telephony Application (hard button)
- 250 Entry Contacts Application (hard button)
- 100 Entry Call Log Application (hard button with LED for Missed call indication)
- Avaya Menu Button (Browser, Options and Settings access)
- Mute Button
- Speaker Button
- 3.8” Diagonal ¼ VGA Quality Gray-Scale Pixel Based Display
- One Appearance Buttons with LEDs
- Adjustable Display Angle
- WML Application Interface
- Innovative Dual Position Flip Stand
- Wall Mountable
- 10/100/1000 Ethernet Line Interface with Secondary Ethernet Interface
- Two Adapter Interface
- One Module Interface
- Supports use of up to three 24 Button Module*
- One USB Interface
- PoE 802.af Compliant Class 2 Device (Aux power available)
- Customizable Faceplate

*Requires Communication Manager Release 4.0
9670 Touchscreen Telephone
• Applicable elements of the user interface are touch enabled
• Example: Contacts
• Ability to easily scroll by line or page
• Use touch in intelligent ways, e.g. an on-screen keyboard
  – Different approach from other vendors
Unique High-Fidelity Audio Quality

- IP telephony should sound better than traditional telephony!
- Acoustically engineered: handset, phone body, speakerphone
- Standard G722 wideband codec available on all phones
- Latest VoIP chip technology
- Avaya Labs audio design expertise

More productive communication and collaboration

- Natural realistic sound
- Greater clarity, less background noise
- Easier to hear people
- Understand speech nuances, accents, languages
- Less user fatigue and stress

Better audio
All the way to your ear!
VPNremote for 96xx/4600 Series IP phones

• What is it?
  – VPN Software enhancement within Avaya IP telephones
  – Allows IP phones to be deployed remotely (such as in the home) via any available broadband internet connection.
  – Works with Avaya VPN Gateways, Cisco (500 and 3000) and Juniper (Netscreen, 500 and ISG) gateways

• Who will use it?
  – Virtual office / Teleworkers
  – Home contact center agents
  – Temporary deployments / disaster recovery scenarios

• Why?
  – Superior telephone experience – versus any Windows laptop and IP Softphone
  – Ease of use
  – Easier for IT depts. to configure, deploy and support ongoing
Avaya Video Conferencing Solution (AVCS)

A Complete Video Solution

- End-to-end low cost video, HD video
  - Low bandwidth
  - Avaya Aura™ for registration, administration, management
- Partner provided display
- Content sharing
- Extension to other enterprise users & video systems

Avaya Desktop Video Device

Avaya one-X™ Communicator

Integration with H.323 systems
Avaya Video Conferencing Solution

**What is it?**
- Broad SIP-based video endpoint family
- From executive desktop through large multi-screen conference rooms
- Use any HDMI HDTV
- Run and managed over Avaya Aura™

**Customer Value**
- Making video cost efficient & user effective
- Built-in group bridging
- Video with ADVD, one-X®, legacy systems
- Integrated system management and bandwidth control
- Easily deploy with Avaya Aura™ Session Manager

**Proof Points**
- 30-40% less expensive than competitive video endpoints
- 33-42% less bandwidth than competitors
- Saves operational hours in set up and user support
- Improves teaming
- Improves user productivity
Avaya Desktop Video Device (A175)

What is it?
- Touch and swipe control
- 11.6” 1366x768 Android-based touch-screen device
- HD camera, HD video
- HD quality audio: Harmon Kardon speakers with sub-woofer
- Optional base station and handset

Customer Value
- Fit-for-purpose video collaboration device
- Fully integrated video
- Flexible Android platform
- Enterprise mobility: SIP, WiFi, VPN, 3+ hr battery
- USB: keyboard, handset, 3G/4G, thumb-drives, etc
- HDMI for large monitors
- Bluetooth accessories

Proof Points
- Enables the highly productive Avaya [Mojo]™ Experience
- Cost-effective single device for video, audio, speakerphone plus application access
- Low-cost HD video loaded with other capabilities
Revolutionary collaborative conferencing experience
Delivering Applications to IP Endpoints
Avaya Phone Application Suite

- Packaged Applications
  - Network Directory
  - Click-to-Call using Smart Agent
  - Broadcast Alerts
  - Text Messaging
- And Transformed Web Applications
  - Leverage existing applications
  - Convert with easy to use, "point-and-click" Design Studio
Network Directory

Corporate Directory (10’s of thousands of entries) Access – from the IP phone

- Single keystroke per letter
- LDAP integration
- Predictive selection of possibilities
- Self-pruning of non-possibilities
- Extremely fast – saves users time
- Soft-dials the selected number
- Supported on the 4610, 4620, 4621, 4622 IP Telephones
- 4625 support – requires firmware patch
Broadcast Server

- Broadcast messages containing audio, text or any combination to screens and speakerphones of IP endpoints
  - Security, IT alerts, weather
  - Advertisements
Phone Applications Scenarios

Webcam Integration
Phone Applications Scenarios

Events, weather forecast
Phone Applications Scenarios

Ordering Products
Phone Applications Scenarios

Customer or Employee Surveys
Extension to Cellular

- Software Only Feature
- User administration of cell phone number
- Bridges Cell Phone to Avaya Desk Phone
  - Cellular standard independent
  - Simultaneous ringing of desk set and cell phone
  - 2 Call Appearances delivered
  - Programmable status button (on/off/delayed)
  - Cellular Access to PBX features (Conf, Xfer, Call forward, international calling)
- One number on the Business Card and one voicemail box

Any Cell (GSM, CDMA, etc)
PBX features accessible from any cell phone

- Active appearance select
- Automatic call back
- Automatic call back cancel
- Call forwarding all
- Call forwarding busy/no answer
- Call forwarding deactivation
- Call park
- Call unpark
- Call pick-up group
- Call pick-up directed
- Call pick-up extended group
- Calling party number block
- Calling party number unblock
- Conference on answer
- Drop Last Added Party

- Exclusion
- Extend call off-PBX enable
- Extend call off-PBX disable
- Held appearance select
- Idle appearance select
- Last number dialed
- Malicious call trace activation
- Malicious call trace deactivation
- Priority call
- Send all calls enable
- Send all calls disable
- Transfer on hang up
- Transfer to voice mail
- Whisper page
Maintain enterprise identify for all inbound/outbound calls
IP Soft Phone Mobility

- **IP with QoS**
  - IP with QoS
  - IP with QoS
  - IP with QoS
- **IP without QoS**
  - IP without QoS
  - IP without QoS
  - IP without QoS

- **PSTN**
  - PSTN
  - PSTN

- **Voice**
  - Voice
  - Voice

- **Control**
  - Control
  - Control

- **Road Warrior Mode**
  - Road Warrior Mode
  - Road Warrior Mode

- **Telecommuter Mode**
  - Telecommuter Mode
  - Telecommuter Mode

**Control + VoIP Audio**
IP DECT mrežni dijagram
• IP DECT rešenje se sastoji od:
  • radio fiksnih elemenata – bazne stanice (RFP)
  • Prenosivih elemenata (PP, DECT phones or wireless terminals)
  • *Linux server (u zavisnosti od veličine DECT instalacije)*
• Komunikacija između CM-a i baznih stanica (RFP) je preko IP infrastrukture
• Konekcija između baznih stanica i prenosivih delova je DECT GAP.
...Securing Enterprise Communications

- No Direct ROOT access
- Partition/NOEXEC Hard Drives
- DoS Protection
- Network Region & Segmentation Support
- Authenticated Downloads
- Adjunct Security and Hardening
- Separate Physical Interfaces for VoIP, Admin, and Control
- Private LAN
- IP Tables FW
- No mail server or web browser
- Minimal network services
- No file sharing
- Integrated Branch Office VPN Support
- Separate Physical Interfaces for VoIP, Admin, and Control
- Admin LAN
- SSH and HTTPS
- VLAN Support
- Public LAN
- Encrypted Control Channels (IPSI, H.248)
- Encrypted Media and Signaling (H.323, SIP)
HVALA