

Unified Communications: Results from the Lab



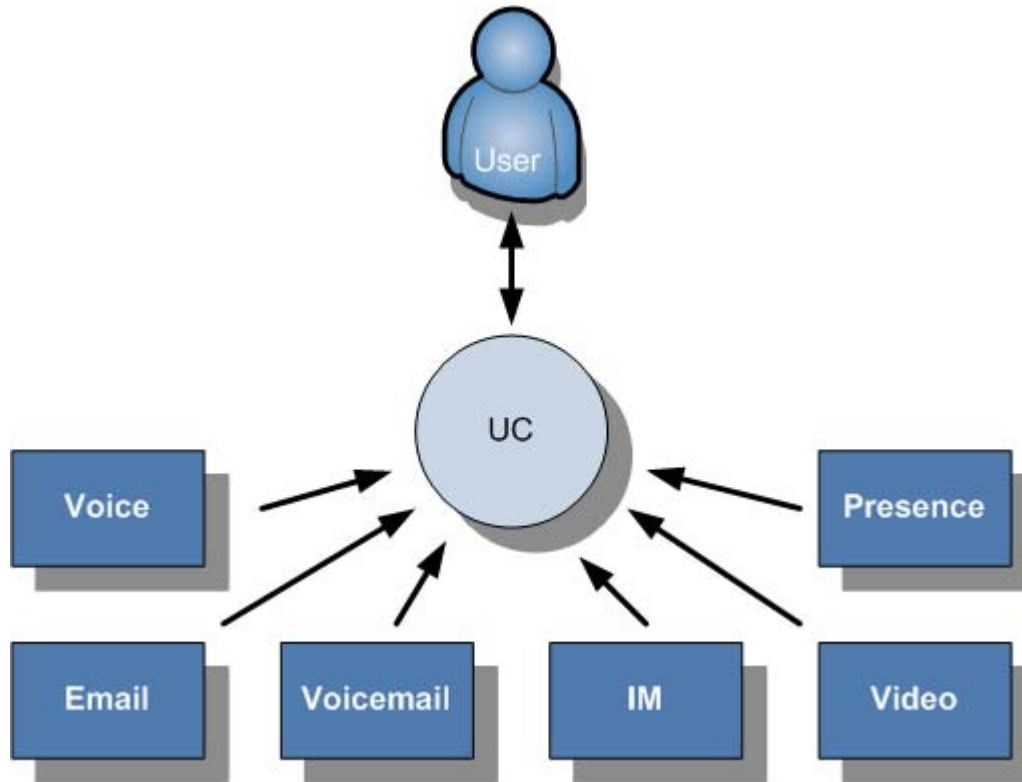
Overview

- Essence of Unified Communications
- UC and the Enterprise
- The Vendors
- What's Next?

Unified Communications

- Miercom Definition:
 - Unifying multiple modes of communication into a single user interface
- History
 - Unified Messaging
 - Voice, Email, Voicemail
 - Appeared as part of the first IP-PBXs
- Now
 - Unified Communications
 - IM, Video, Presence
 - Conference – Audio, Video, IM (Chat)

General Architecture



General Architecture

- Thick Application
- 3rd party plug-in
 - MS Outlook/Communicator
 - Lotus Notes
 - IBM Sametime
- Web Application
- Mobile Application
 - J2ME, Symbian, Windows Mobile, Palm OS

Uses in Enterprise

- Enhance productivity
 - Increased the percentage of successful contact
 - Ability to have same level of access to communication from anywhere
 - Ability to work with preferred communication mode
- Simplify Communications
 - Reduce number of communication applications
 - Lower the learning curve

THE VENDORS

What We Tested

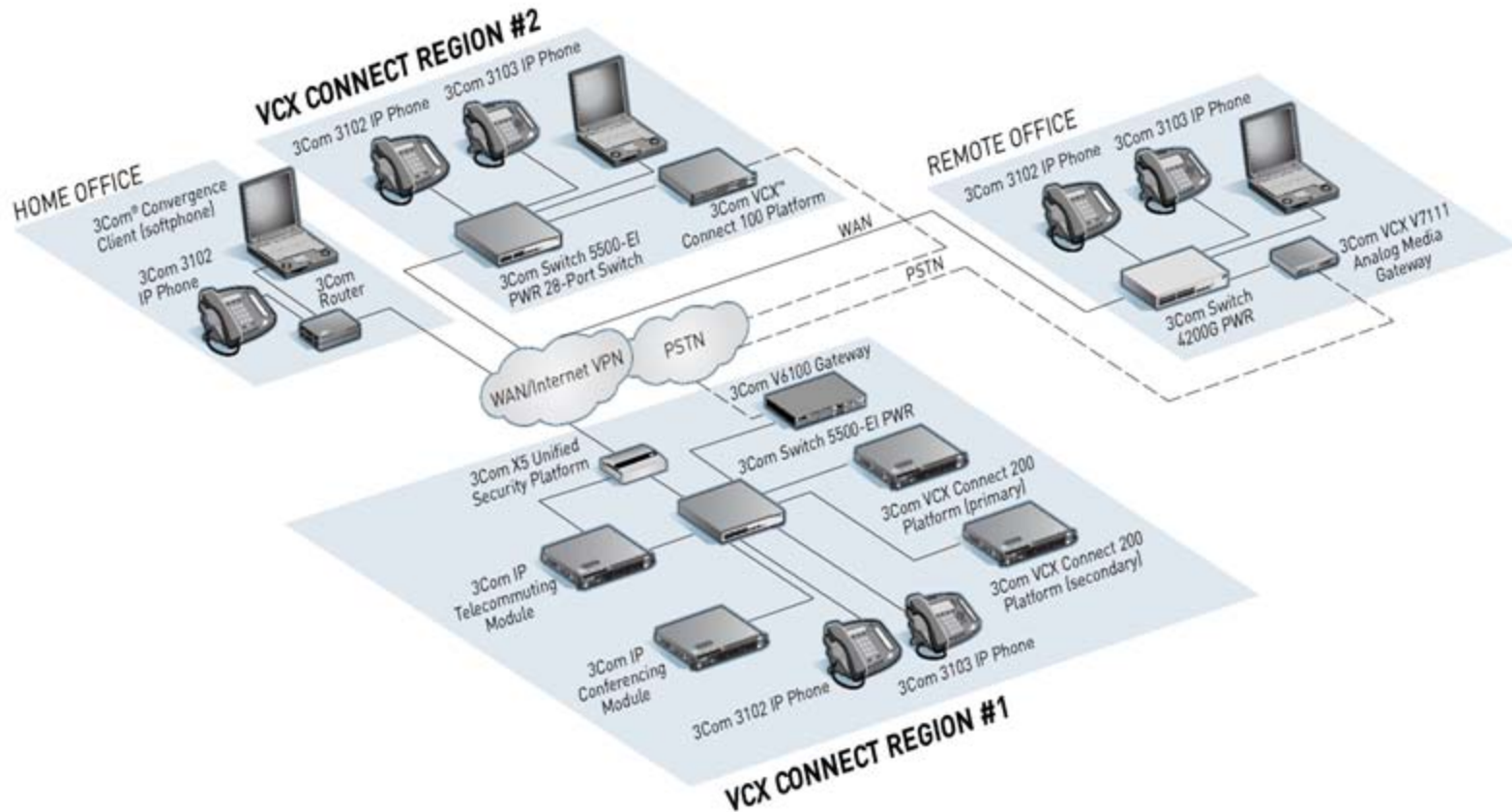
Vendor	Product	Version
3Com	VCX Connect 100 & 200	Release 8.0
Alcatel-Lucent	OmniTouch Unified Communications	Release 5.0
Avaya	Communication Manager	Release 5.1
Cisco	Cisco Unified Communications Manager	system Release 6.0
Microsoft	Office Communication Server 2007	RTM Code
NEC	UM8500 and OW5000	Release 3.0.1
Siemens	OpenScape Unified Communications	V3

3Com

VCX Connect 100 & 200

- Release 8.0 of VCX Connect evolved from a softphone product built for service provider class reliability
- Targeted market is small and medium enterprises
- 100% SIP Solution, interoperable and compliant
- Scalable to 100 users per VCX Connect 100 Server and 250 users per VCX Connect 200 and up to 6 servers may be interconnected

3Com Architecture

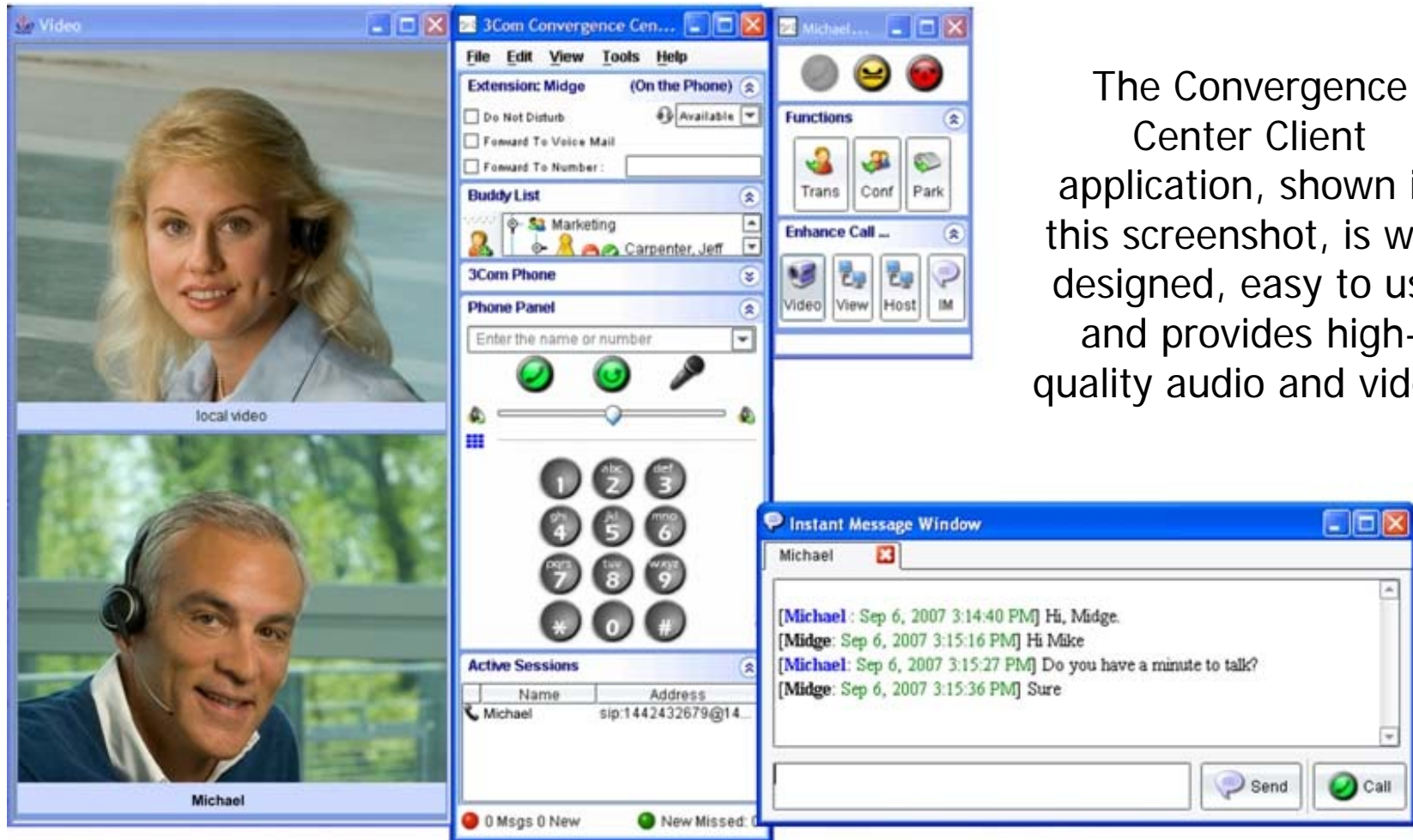


3Com

Client Interfaces

- Convergence Center Client Softphone
- Nokia GSM/WiFi PDAs, and other dual mode phones
- 3Com 3100 series desk phone with Hitachi IP5000 portable WiFi headset

3Com



The Convergence Center Client application, shown in this screenshot, is well designed, easy to use and provides high-quality audio and video.

3Com

VCX Connect Key Features

- Intuitive web based interface which greatly improves installation and simplifies user moves, adds and changes
- Native all-SIP call control enables 3rd-party device support and interoperability with a wide range of UC endpoint devices
- Solid and full-featured IPPBX (all SIP features and extended SIP) for small and medium enterprise

3Com

Key Findings

The 3Com VCX Connect 100 & 200 IP PBX products are Rated Best Distributed Survivability for SME Class Unified Communications Solutions in the 2008 Miercom Unified Communications Industry Study



Rated Best Distributed Survivability 2008*

Download free report from:
www.miercom.com/3Com

Lab Test Summary Report
June 2008 report only

Product Category:
UC IPPBX SME Class

3COM
VCX Connect 100
VCX Connect 200

Miercom RATED BEST
Rated Best Distributed Survivability 2008*

Key findings and conclusions:

- The 3Com VCX Connect proved "Best Distributed Survivability" in a comparative, open review of SME class unified communications products.
- The VCX Connect utilizes an intuitive web-based interface which greatly improves installation and simplifies user moves, adds and changes.
- Native, all-SIP call control enables 3rd-party device support and interoperability with a wide range of UC endpoint devices.
- The 3Com VCX Connect IP is a solid and full-featured IPPBX for small and medium enterprise.

3 Com submitted the latest release 8.0 of its VCX Connect 100 and 200 IP telephony systems for Miercom's annual, open, comparative review of Unified Communications and IP PBX products. Miercom examined eight UC/IP PBX products that are available to the small and medium enterprise (SME) market.

The VCX Connect 100 and 200 IP telephony systems were subjected to 44 multi-component test methodologies and a complete product review. The VCX was recognized two year previous for superior resiliency and has once again achieved the unique distinction of being the "Rated Best Distributed Survivability" of all UC/SME systems tested. The table below details the VCX Connect's key capabilities and features that contributed to this distinction. Full test details will be available for download at www.miercom.com/3Com.

3Com VCX Connect IP PBX "Rated Best Distributed Survivability"	
Software Redundancy	IP telephony call control and IP PBX (routing) (optional) control are replicated on a redundant server. One does not functionally fit a network line or other single site failure occur.
Server Redundancy	VCX Connect ships complete on a hardware appliance or unshipped, 4U server which are both easily configurable for redundancy.
Fail-over Capabilities	Redundant VCX Connect platforms with resilient client registration for endpoint, backup and available server and call route for communications.
Backup/Recovery	Full system backup and restoration is easily conducted using the web based GUI. The restoration/restore can also be used to facilitate fail-over to alternate servers.

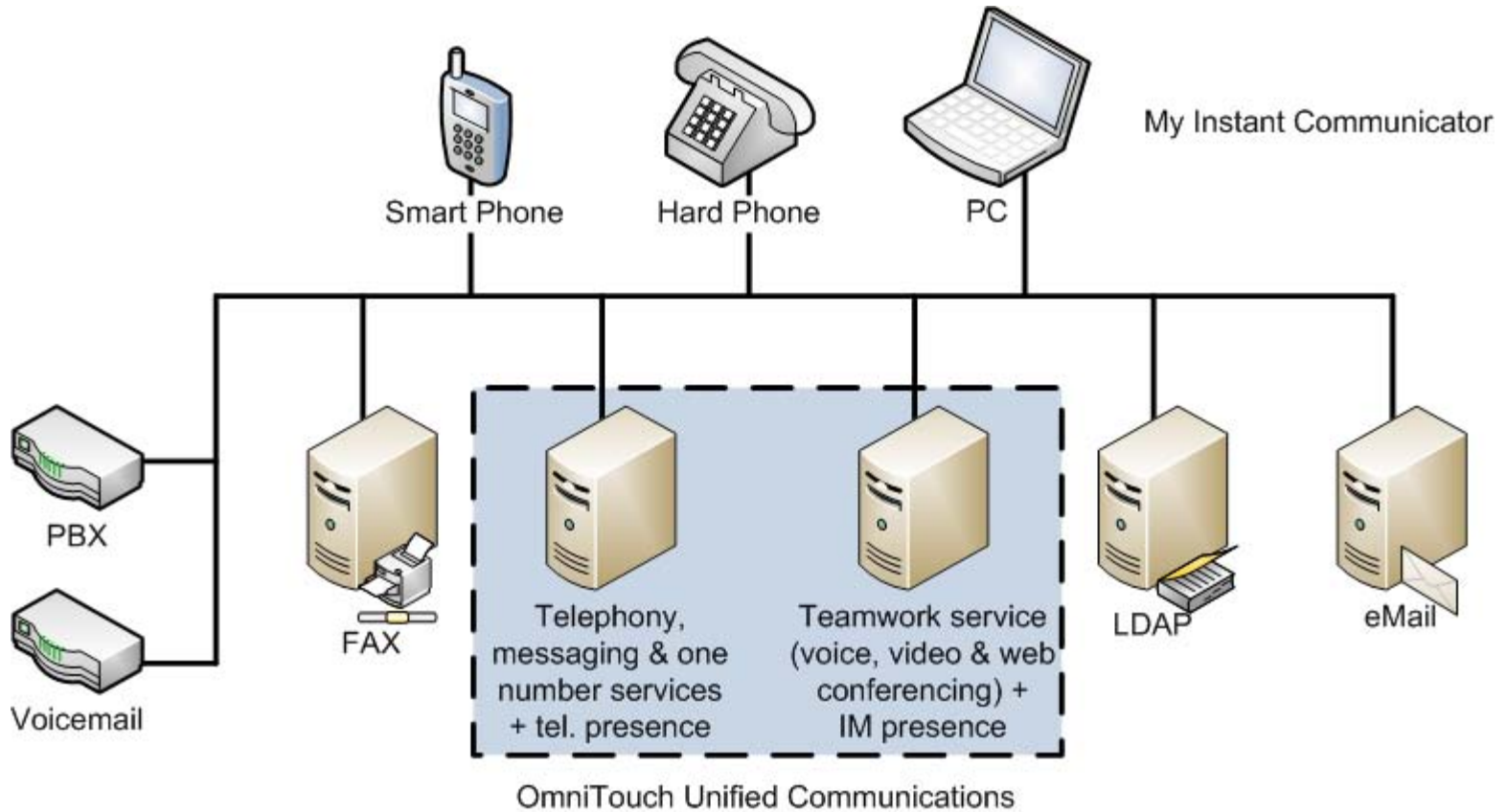
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Alcatel-Lucent

OmniTouch Unified Communications Suite

- Evolution of Unified Communications offerings
 - Enhanced integration and features
 - Simplified licensing
- Single package includes:
 - Telephony
 - Messaging
 - One number
 - Team-working services
 - Rich presence information in a single package

Alcatel-Lucent Architecture



Alcatel-Lucent

Client Interfaces

- My Instant Communicator
 - Think Client
- Web Portal
- SmartPhone
- 3rd Party
 - Microsoft Outlook, Lotus Notes
 - Microsoft LCS, IBM Sametime

Alcatel-Lucent

Key features

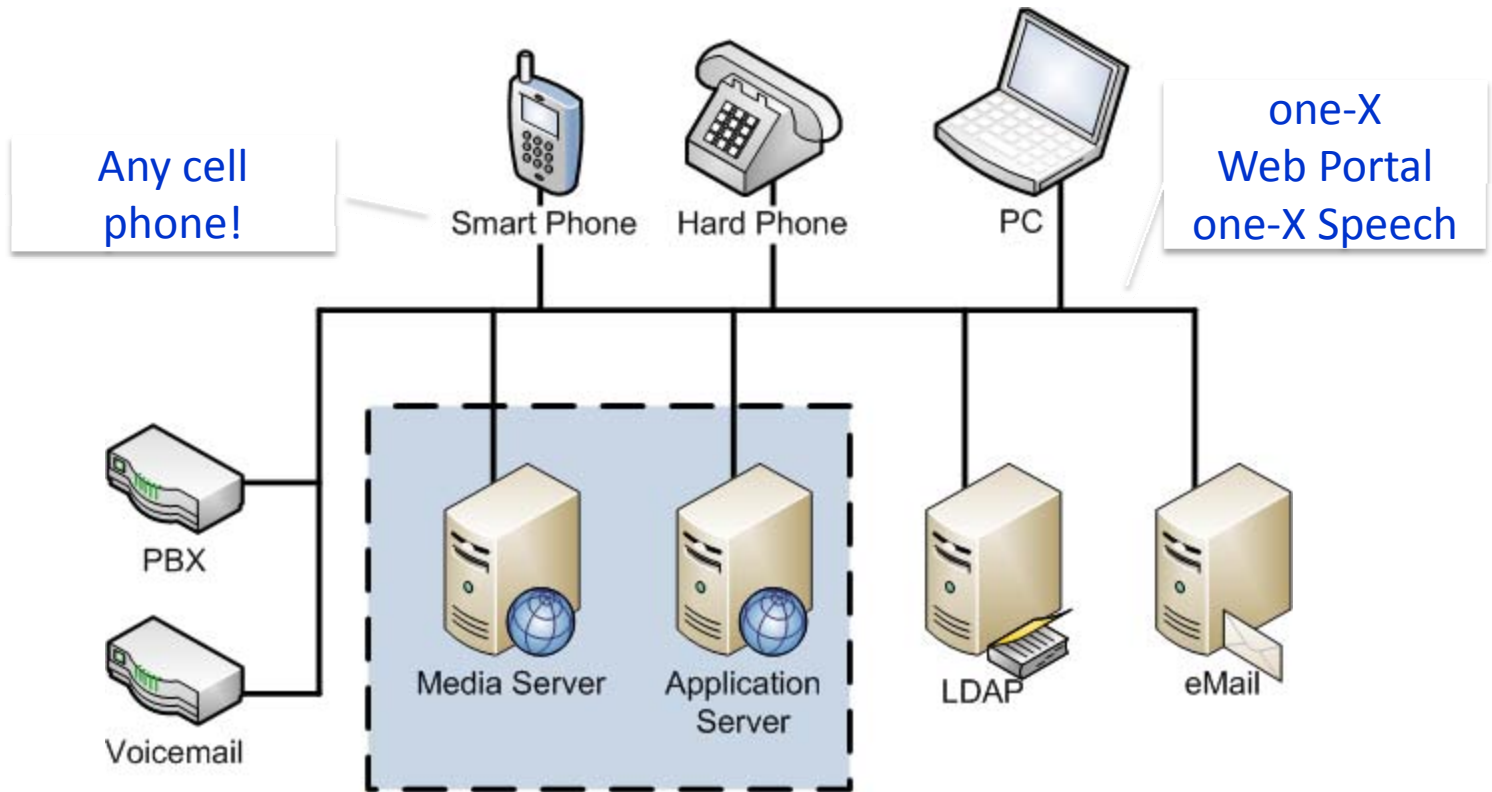
- Solid Performance
- Instant Messaging from hard phone
- Rich optional collaboration service

Avaya

Communications Manager 5.1

- It is what you do, not where you are
- One user experience regardless of access method
- Linking multi-vendor solutions

Avaya Architecture



Avaya

Client Interfaces

- Avaya one-X Communicator and one-X Desktop
 - UC client for the PC
- Avaya one-X Portal
 - Web based softphone and UC Interface
- Avaya one-X Deskphone
 - Used in conjunction with softphone
- Avaya one-X Mobile
 - Thin applications for cell phones
- Avaya one-X Speech
 - Voice activated attendant and personal assistant

Avaya



The client software supports several makers and models that range from high end smart phones to lower end feature phones to support most enterprise environments, regardless of the complexity of the mobile environment.

Avaya

Key Features

- Same general look and feel among all interfaces
- Visual voice mail on your cell phone
- Extension to cellular from web portal
- Integration with Web Conferencing
- Seamless integration with MS OCS and IBM Sametime

Avaya Key Findings

Avaya's Unified Communications Solution for 450 Users (Mid-Sized Business) is Rated Certified Green in the 2008 Miercom Unified Communications Industry Study



Miercom
Lab Test Summary Report
August 2008
Report 080818

Product Category: Enterprise Class Unified Communications
AVAYA
Products: S8730 Server, 6550 Media Gateway, Communication Manager, Avaya one-X Endpoints

Miercom RATED BEST

Survivability for Large Enterprise UC Solution

Key findings and conclusions:

- Rated best survivability for Large Enterprise Unified Communications Solution
- Large catalog of mix-and-match components allows highly-customized UC system design
- Ce-resident SIP Establishment Service (SES) on embedded server improves remote survivability and reduces hardware expense
- Avaya one-X Speech application accurately understands voice commands and serves as a virtual "e-secretary"

Avaya's latest unified communication suite of products was tested for both its function and survivability. The company has produced a high-quality portfolio of IP PBX UC components that, based on the company's long history as a telephony leader, can bring its enterprise customers closer to truly complete unified communication.

A powerful new high-availability communication server, the S8730 was introduced in January, 2008. The unit features improved power utilization and provides a higher level of redundancy than the S8730L server it replaces. The new platform features RAID Level 1 controllers and dual power supplies.

The new server proved its reliability during our testing. Despite repeated attempts to test it by purposely disconnecting power, disabling drives and severing network links, the S8730s reflexively bounced back to design.

Communication survivability was further augmented by the availability of co-resident SIP Establishment Service (SES) on Avaya 6550/6450 Media servers. When these are embedded into a media gateway, SIP functionality remains intact even if the main communication server is completely removed.

The Avaya S8730 is backed with dual-power and RAID Level 1 controllers, is the leader in the UC solution for survivability and resiliency.

Survivability for Large Enterprise Solution 2008

Avaya S8730 Communications Server and Communication Manager 5.1 are Rated Best Survivability for Large Enterprise UC Solution in the 2008 Miercom Unified Communications Industry




Miercom
Lab Testing Summary Report
November 2008
Report 081101

Product Category: Unified Communications
Vendor Tested: **AVAYA**
Products Tested: Avaya Unified Communications Solution for 450 Users

Miercom CERTIFIED GREEN

Key findings and conclusions:

- Avaya 9600-series IP desktops provide full unified communications features with power consumption less than 31 percent of industry average for products tested
- Avaya G450 Media Gateway enables power savings through consolidation and an embedded SIP server
- IP PBX platform and endpoints support seamless remote work or communication, boosting productivity and workplace flexibility
- Avaya exhibits a corporate commitment to environmentally-conscious manufacturing

Avaya Unified Communications Solution, configured for 450 users, was evaluated by Miercom for its environmental impact by observing the individual components as well as the system as a whole.

Miercom engineers determined the Avaya solution, based on the Avaya Communication Manager 5.1 platform, offers substantial energy savings by enabling customers with better business communication efficiency and effective teleworking opportunity.

The analysis included verification of the Avaya solution through hands-on testing in a lab environment under moderate load and varying network conditions. Case study site analysis of UC systems deployed in live network environments were also conducted in this audit. The products' power-savings were weighed against their performance to ascertain true energy-to-service ratio.

In substantial size IP PBX environments our industry assessment revealed endpoint devices have the biggest impact in terms of power consumption. The Avaya IP desktops proved to be very power-efficient and contributed to the Certified Green rating. The new G450 Media Gateway impressed us by offering high-quality unified communications, consolidated services, superior interface density and all in a compact energy efficient device.

Avaya G450 Media Gateway reflects Avaya's commitment to building new equipment that is environmentally sound. The gateway has the capacity of 40 endpoints and consumes less power.

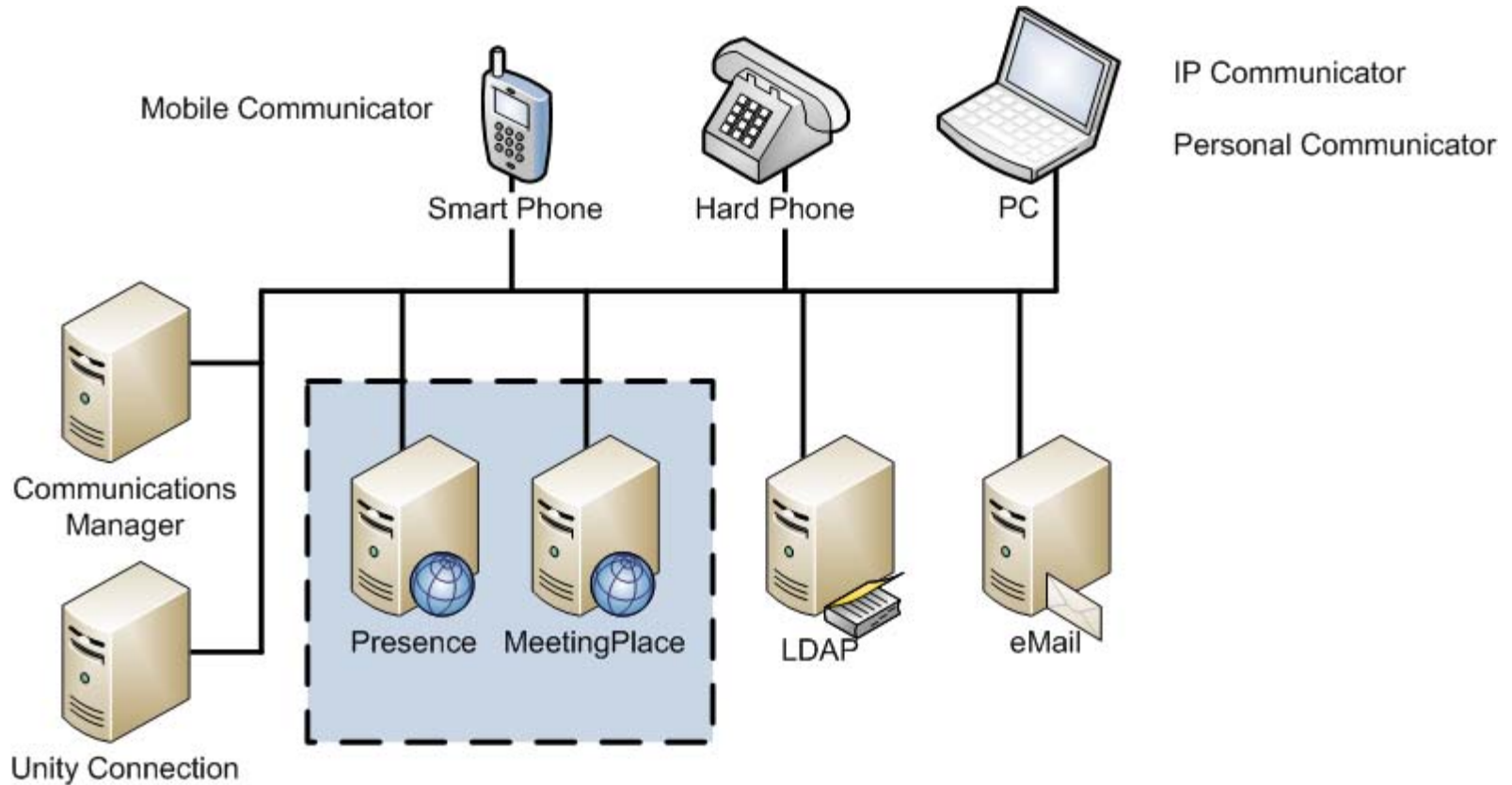
Download free reports from: www.miercom.com/avaya

Cisco

Cisco Unified Communications Manager (CUCM)

- Unified Communication applications released as a part of the Cisco Unified Communications system release 6.0
- Multiple applications designed to provided end-user flexibility while simplifying communications

Cisco Architecture



Cisco

Client Interfaces

- Cisco Unified Mobile Communicator
- Cisco Unified Personal Communicator
- Cisco Unified MeetingPlace (Collaboration)
- 3rd Party integration
 - Microsoft Outlook, LCS
 - IBM Sametime

Cisco

Key features

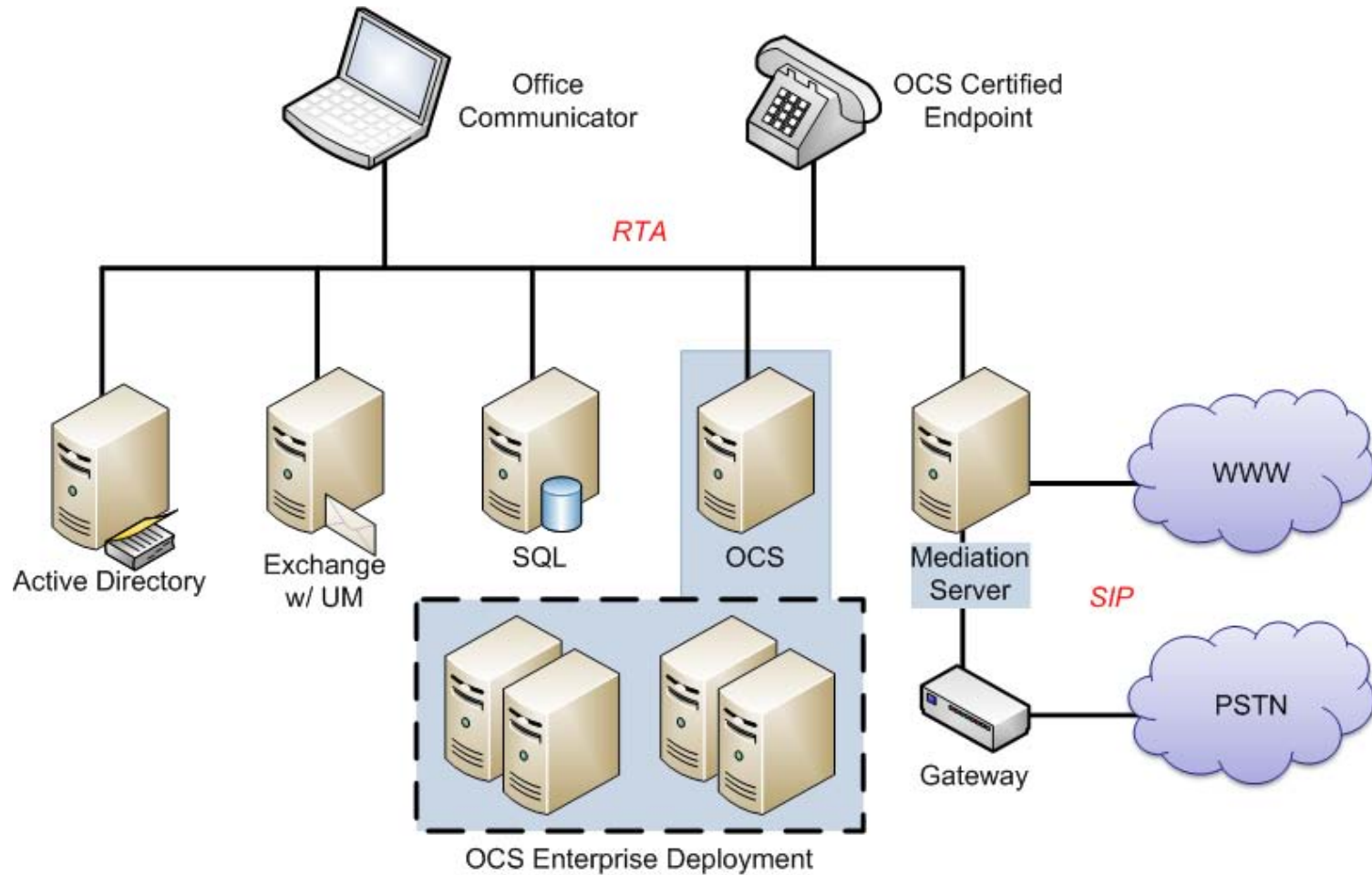
- Launch of collaboration tools from within 3rd party applications
- Mobility solutions provide real-time corporate updates
- IM and Chat available from Cisco client

Microsoft

Office Communication Server 2007 (OCS)

- Next Generation of Microsoft Live Communications Server (LCS)
 - Adds voice and video
 - Enhances integration and presence
- Tightly integrated with Microsoft desktop
- Provides basic PBX functionality
- Assumes Microsoft world on the back end

Microsoft Architecture



Microsoft

Client Interfaces

- Office Communicator 2007
 - Presence, IM, Click-to-dial, voice, video
- Office 2007 integration
 - Outlook, OneNote
- Hard endpoints
 - USB Handset
 - IP Phone

Microsoft

Key Features

- Mode progression
 - IM → Voice → Video
- Transcend communication mode
 - Receive an email, respond with an IM
- Customized presence response
 - VIP list vs. general users

Microsoft

Basic Telephony Features

Supported

- Ad-hoc Conference
- Call drop
- Call forward
- Call hold
- Call transfer
- Caller ID
- MWI
- Missed Call notice
- Mute

Supported*

- Multi-line appearance
- Last number redial
- Speed dial

Not Supported

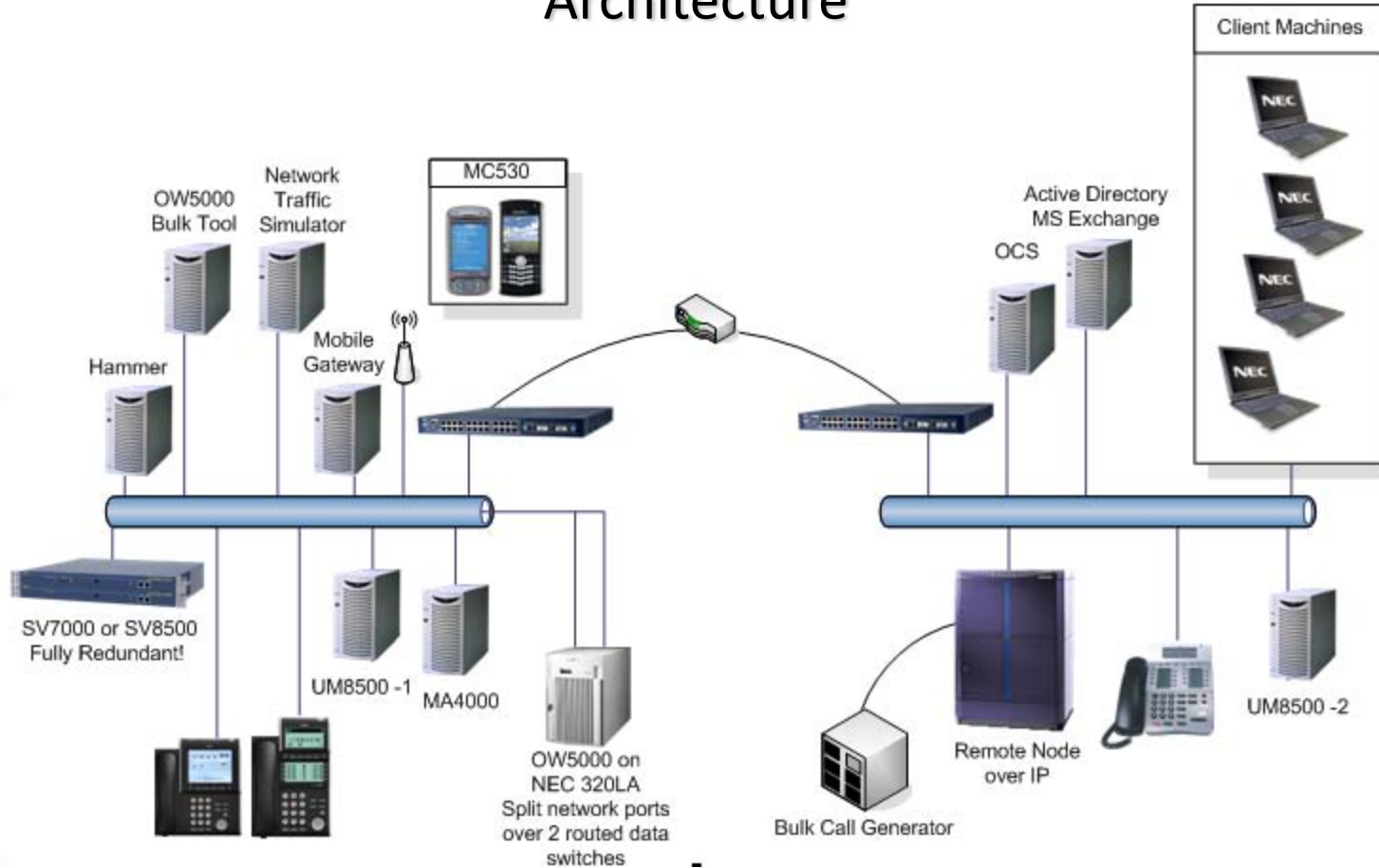
- Call park
- Group Pickup
- Music on hold

NEC

UM8500 and OW5000

- Enterprise solution that integrates with MS SQL
- Very resilient solution and backward compatible with legacy solutions
- Features an excellent full feature UC client – one of the best we've tested

NEC Architecture

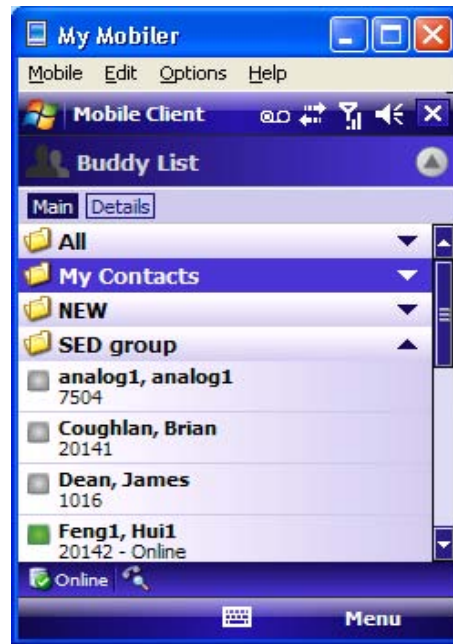


NEC

Client Interfaces

- MS Exchange (Outlook) plug in NEC UC Voice and Video conferencing
- DT750 XML enabled IP hard phone
- MC530 Mobility Client for Blackberry 720 through 8320, Motorola Q, HP Ipaq, Palm, Samsung BlackJack
- OW5000 web based client

NEC



The MC530 is almost 100% unified: it moves from the mobile phone to the Internal network without any loss of connectivity and change in presence in one location synchronizes everywhere.

NEC

Key Findings



The NEC UM8500, OW5000 with MC530 products comprise a solution that is Rated Best Mobility Client for SME Class Unified Communications Solutions in the 2008 Miercom Unified Communications Industry Study

Rated Best UC Mobility Client 2008

***Download free report from:
www.miercom.com/NEC***



NEC

Key Features

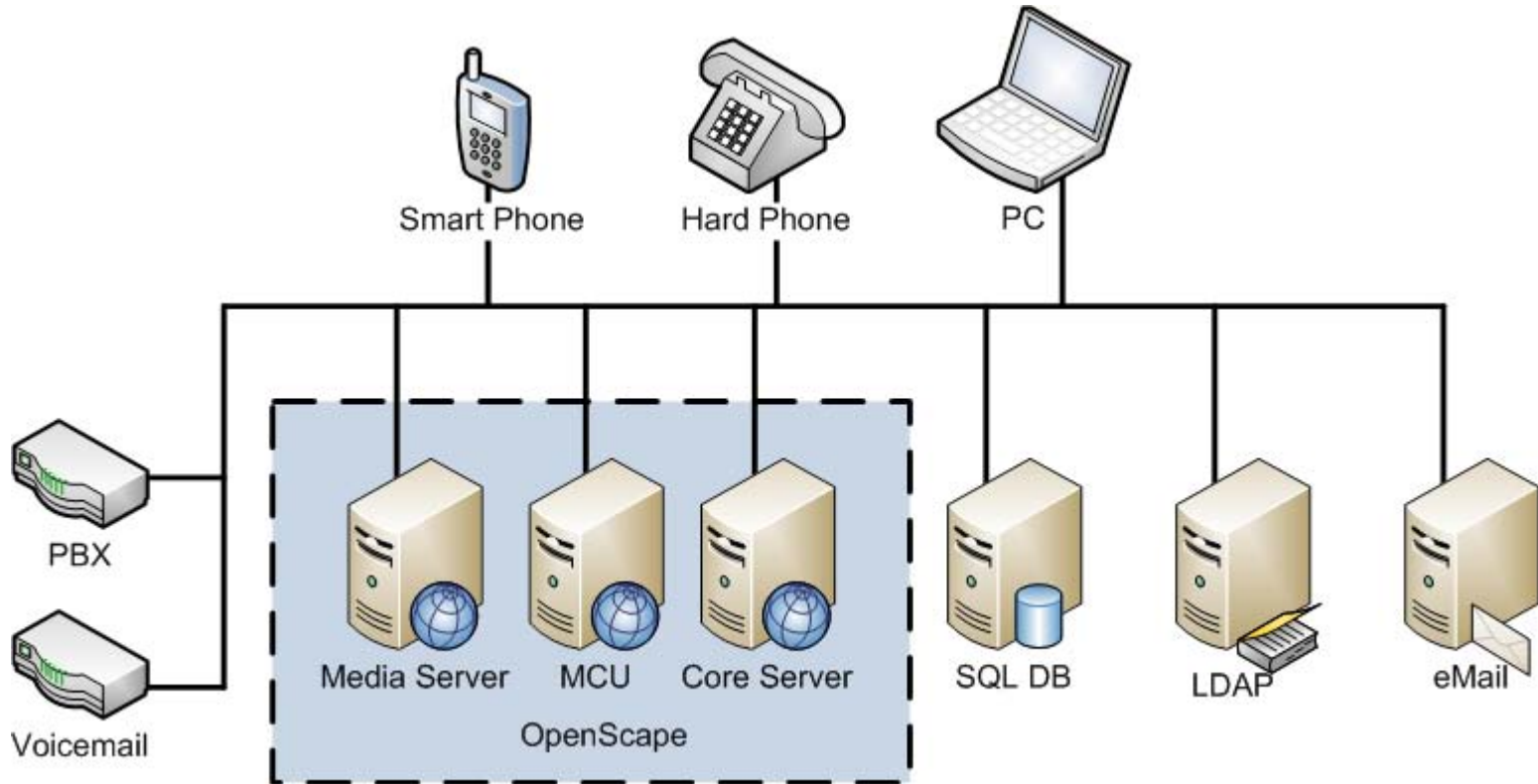
- Full featured mobility client with same look and feel as desktop client
- Integrated presence throughput
- Tight integration with MS OCS

Siemens

OpenScape Unified Communications

- Designed with customizable programmable architecture in mind
- Significantly based in open standards
- HiPath 8000 tested, now included in Siemens Open Communications strategy

Siemens Architecture



Siemens

Client Interfaces

- HiPath Xpressions
 - Unified Messaging, Mobility
- OpenScape
 - Conferencing, Presence, IM
- 3rd party integration
 - Microsoft LCS, IBM Sametime
 - SOA and SDKs

Siemens

Key features

- Ability to be embedded within other applications
 - Salesforce.com
- OpenScape simplifies collaboration / conference scheduling
- Open SOA architecture

Siemens

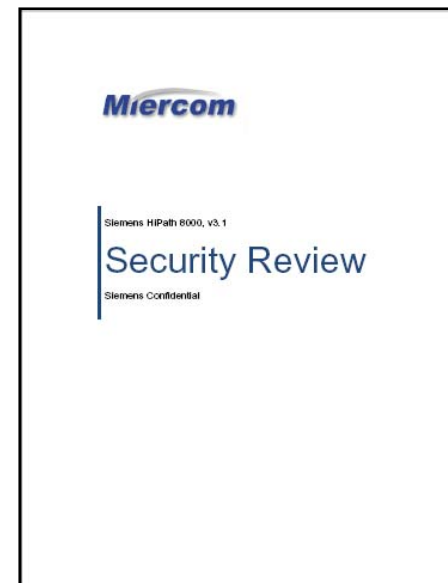
Key Findings



The Siemens OpenScape IP BPX products is Rated Certified Secure in the 2008 Miercom Unified Communications Industry Study

Rated in 2008 Miercom Unified Communications Industry Study

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www.miercom.com/Siemens***



WHAT'S NEXT?

Things to consider

- Organizations definition of 'Unified Communications'
- End user response under load
- Don't sacrifice quality for simplicity
- Security
- Reliability, redundancy, failover

Compliance Issues

- Where do all the messages go?
 - Email storage
 - Voicemail storage
 - Voicemail as email storage
 - IM / Chat session archiving
- Failover / Business Continuance

Future Directions

- Further consolidation & integration with core applications
 - Microsoft Outlook
 - Microsoft OCS, getting closer
- Rebalancing the ways of all communications
 - IM vs. email vs. voice
- Document collaboration
- Simplification of 'complex' operations
 - Conference calls
 - Richer presence
- Greater incorporation of mobile technology

Future Challenges

- Voice quality
 - Hard phone remains best option at this time
- Operation systems add significant latency
- Cellular problems
 - Quality, reliability, bandwidth
- Security

QUESTIONS?

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