

Siemens Enterprise Communications

Unified Communications mit ENUM

ENUM-Tag der DENIC eG

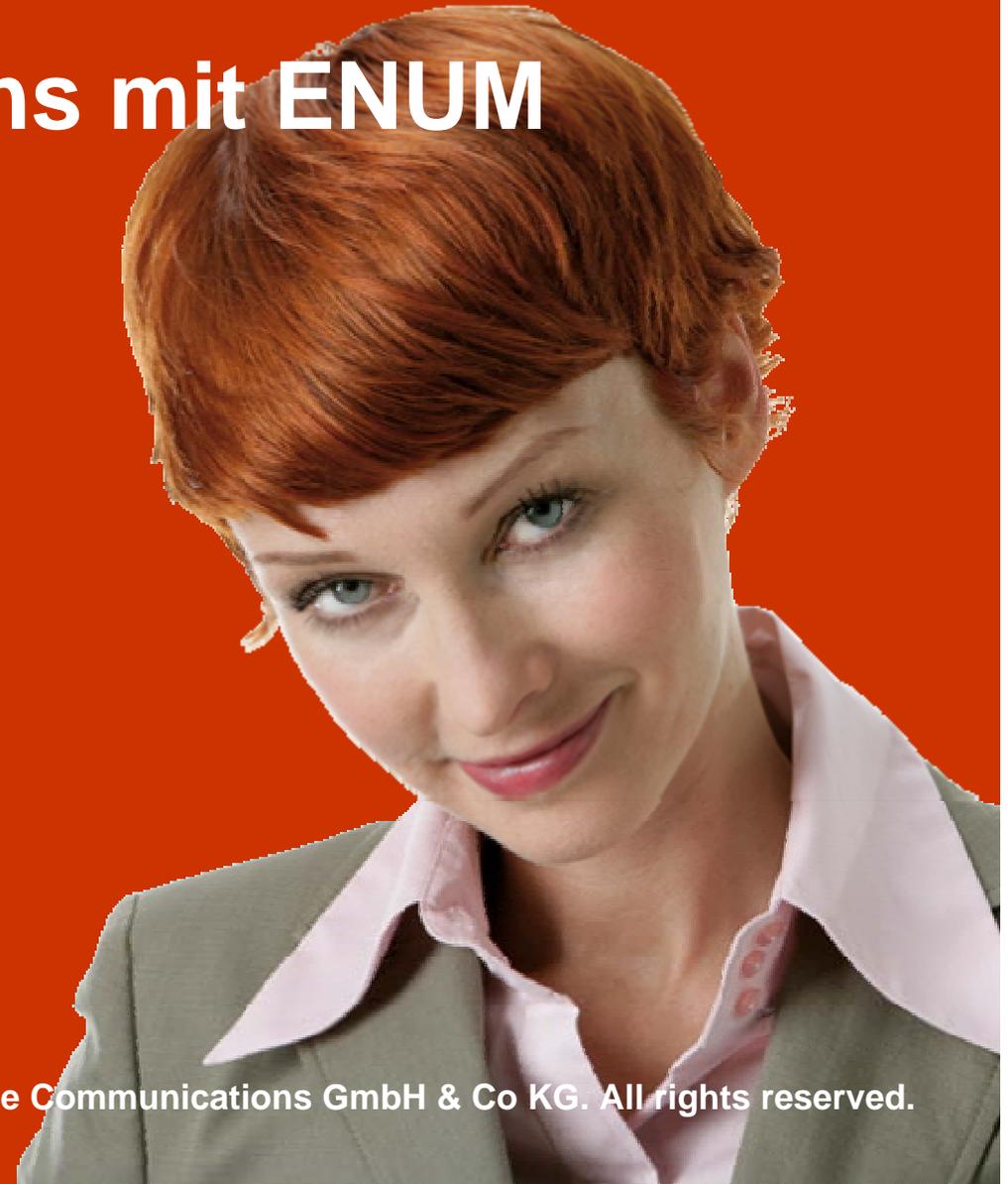
Dr. Jo Schinke
CTO, VP System Engineering

Frankfurt am Main, 18. April 2008

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Vision and Strategy Agenda

SIEMENS

Current Technology & Market Trends

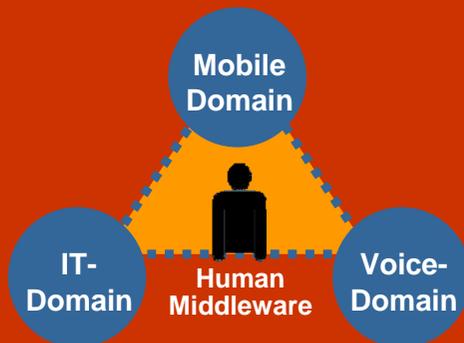
SEN Vision and Strategy

**SEN Portfolio and
Open Communications Environment**

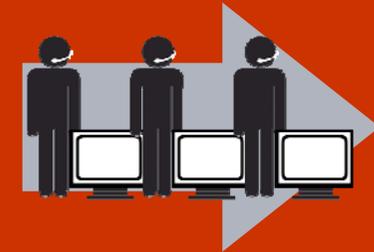


Today's Communications Challenges

The Communication Dilemma: Fragmented Communications



Increasing Mobility
Essential for Business



Need to Modernize
Business Processes and
Team-Working



- Multiple interconnected PBXs
- Meshed networks and complex routing
- User licenses tied to sites
- Proprietary hardware and devices



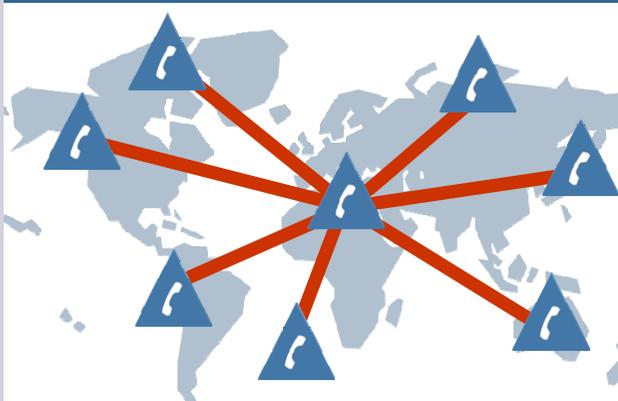
Need to Converge
IT and Comms
Domains



... with acceptable
Operations and
Support Costs

Major Trend – Deploying Open Communications

Traditional TDM Communications



- Proprietary TDM
- On-Site Architecture
- Cordless Mobility
- On-Site applications
- Voice & Voicemail
- Inter-Site Interworking

Transitional Distributed Converged VoIP



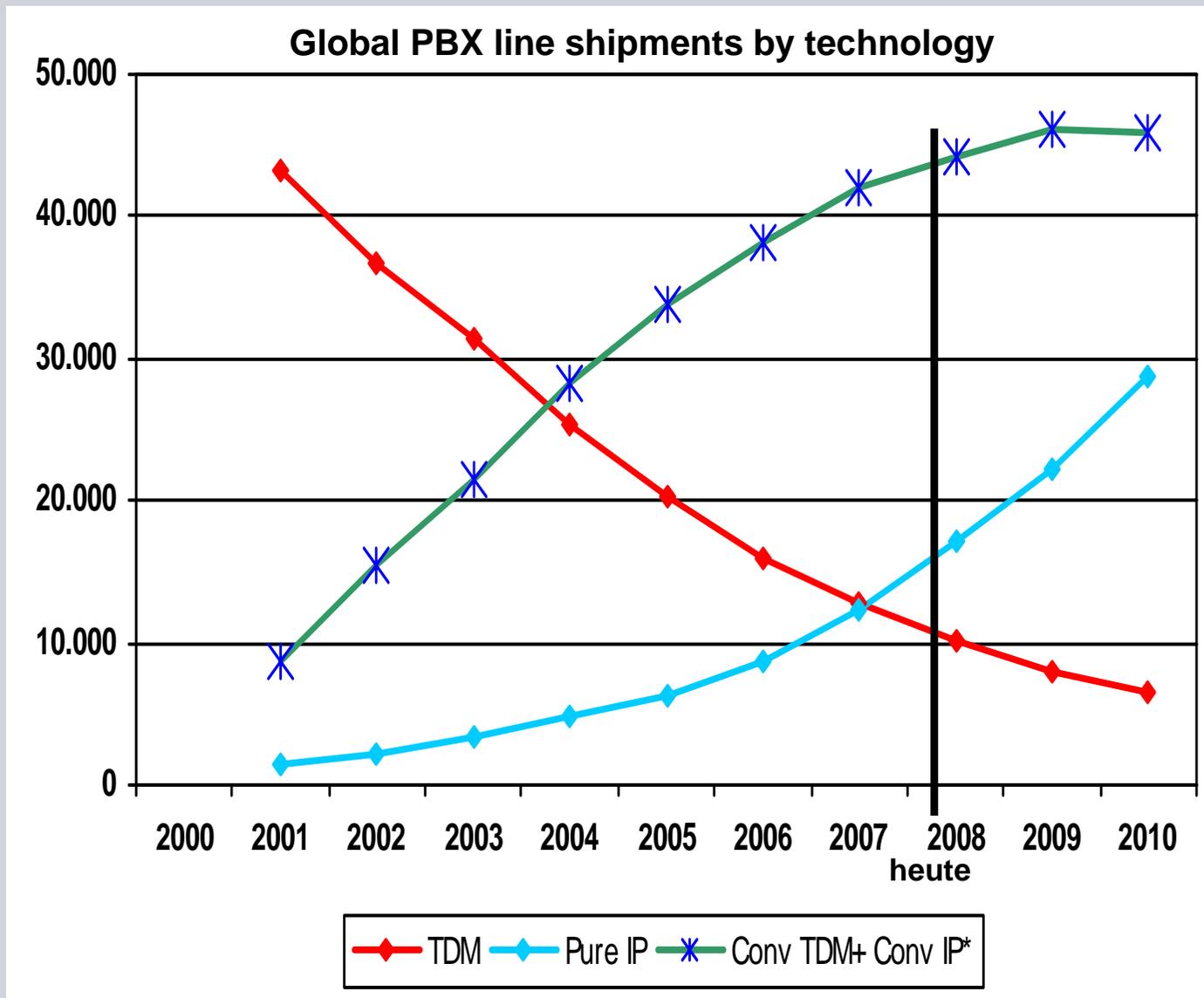
- VoIP
- Distributed
- Advanced Mobility
- Advanced applications
- Advanced features
- Excellent legacy support

Transformational Open Communications



- Enhances Data Centers by
- Unified Communications
 - Open IT Based Communications
 - Fixed Mobile Convenience
 - Business Process Integration
 - Rich User Experience
 - Deployment Choices
 - Business Continuity and Integrity

Enterprise PBX market – still high demand for converged platforms, with pure IP picking up quickly



Source: Gartner, 12/06

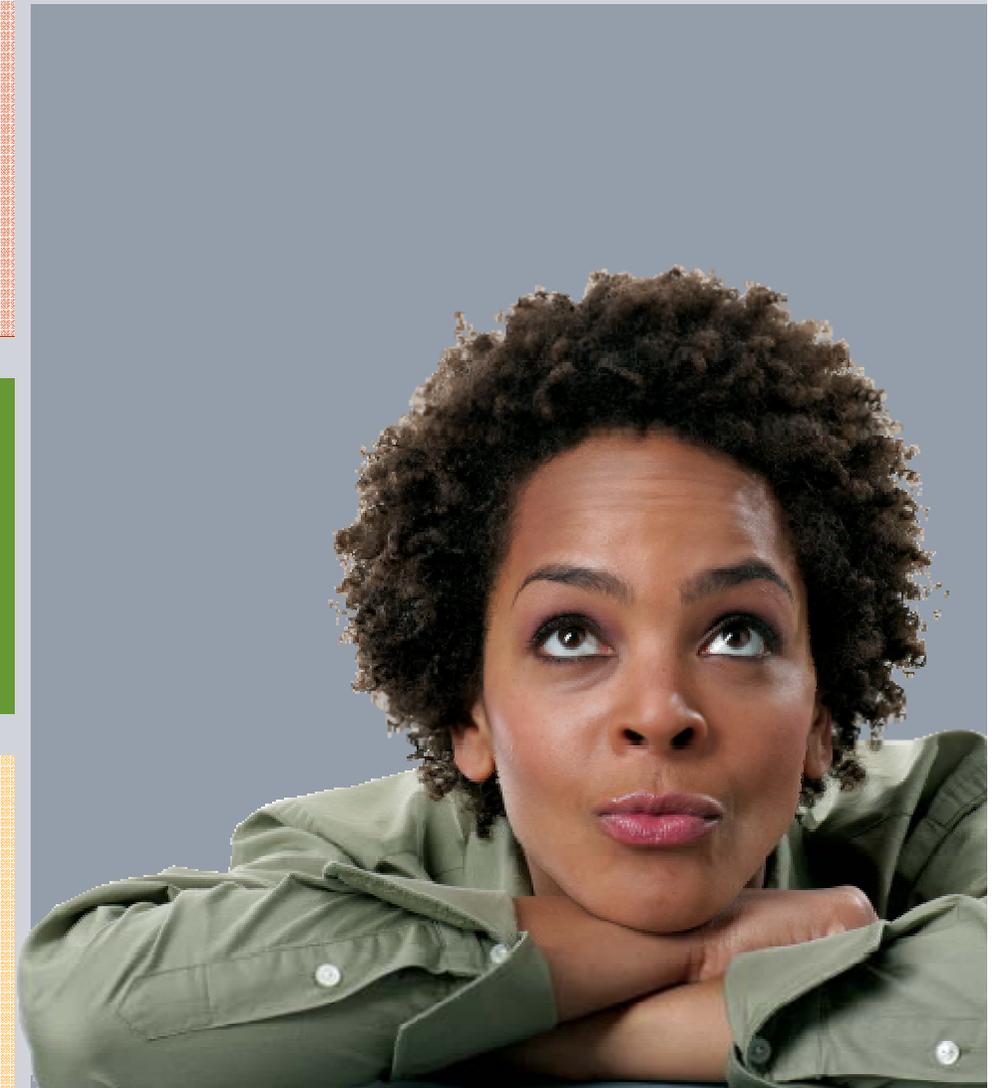
* Analysis based on Gartner numbers: Sum of Conv TDM and Conv IP

Vision and Strategy Agenda

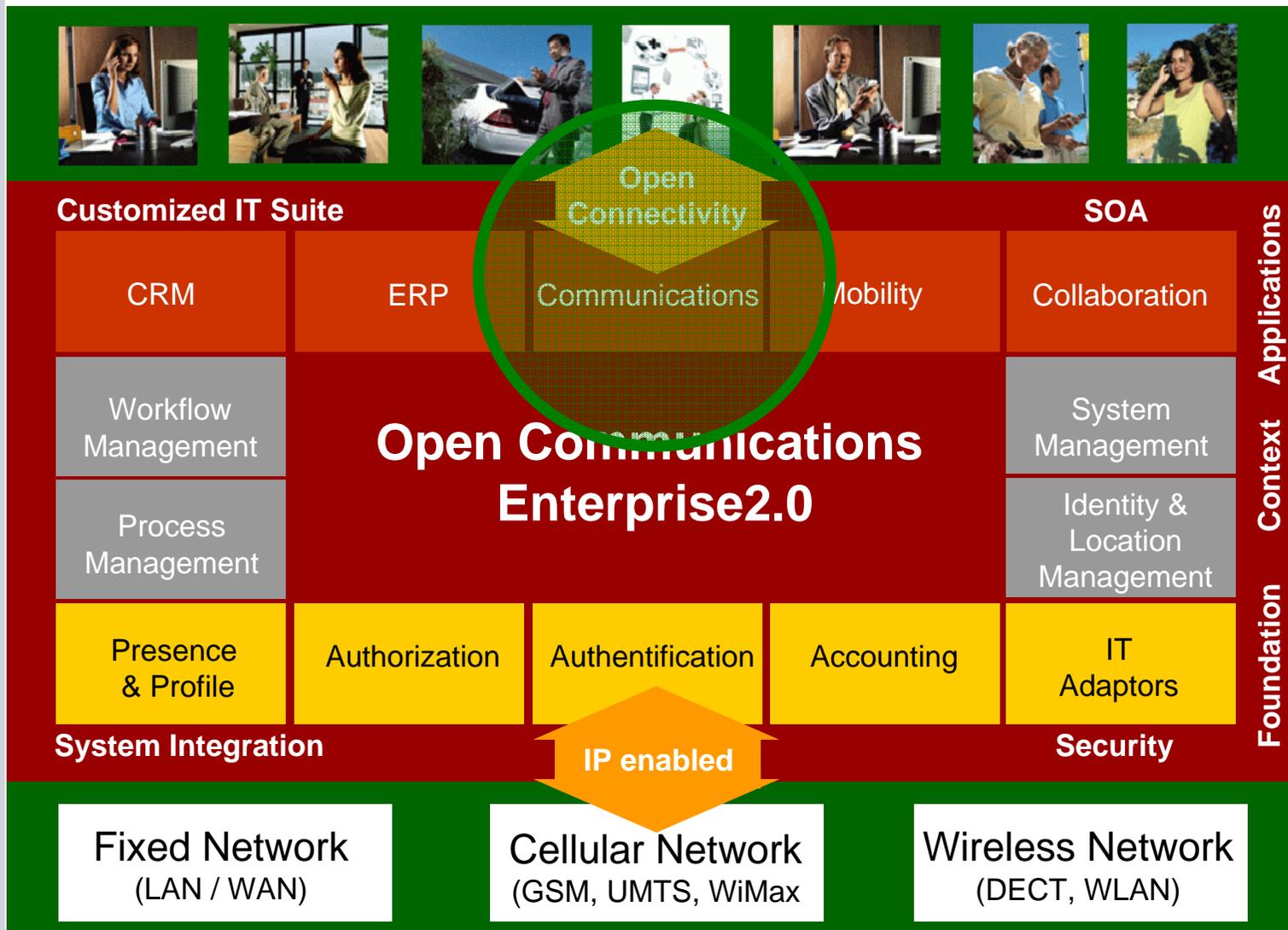
Current Technology & Market Trends

SEN Vision and Strategy

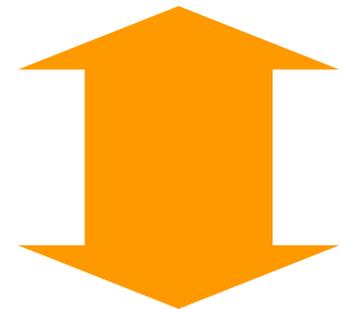
SEN Portfolio and
Open Communications Environment



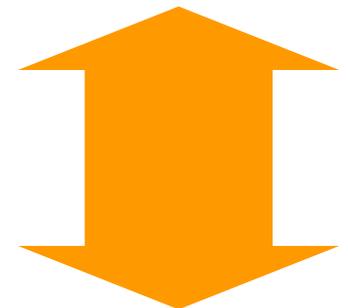
Seamless Integrated Enterprise Architecture, SIENA



Any Device



Open Communications



Any Network

Siemens' Perspective

A software and services approach to business communications

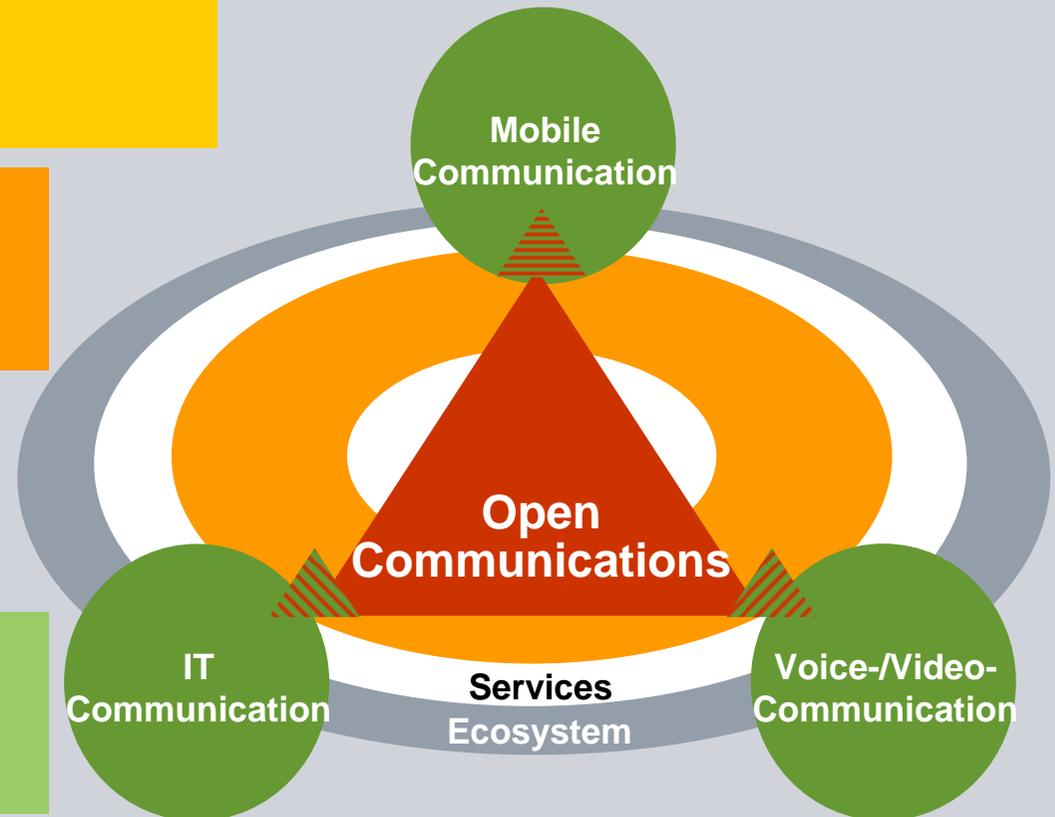
Voice will stay fundamental

Software-based

Maximizes business value

Multi-Vendor Infrastructure

Multi-Vendor services capabilities



Vision and Strategy Agenda

Current Technology & Market Trends

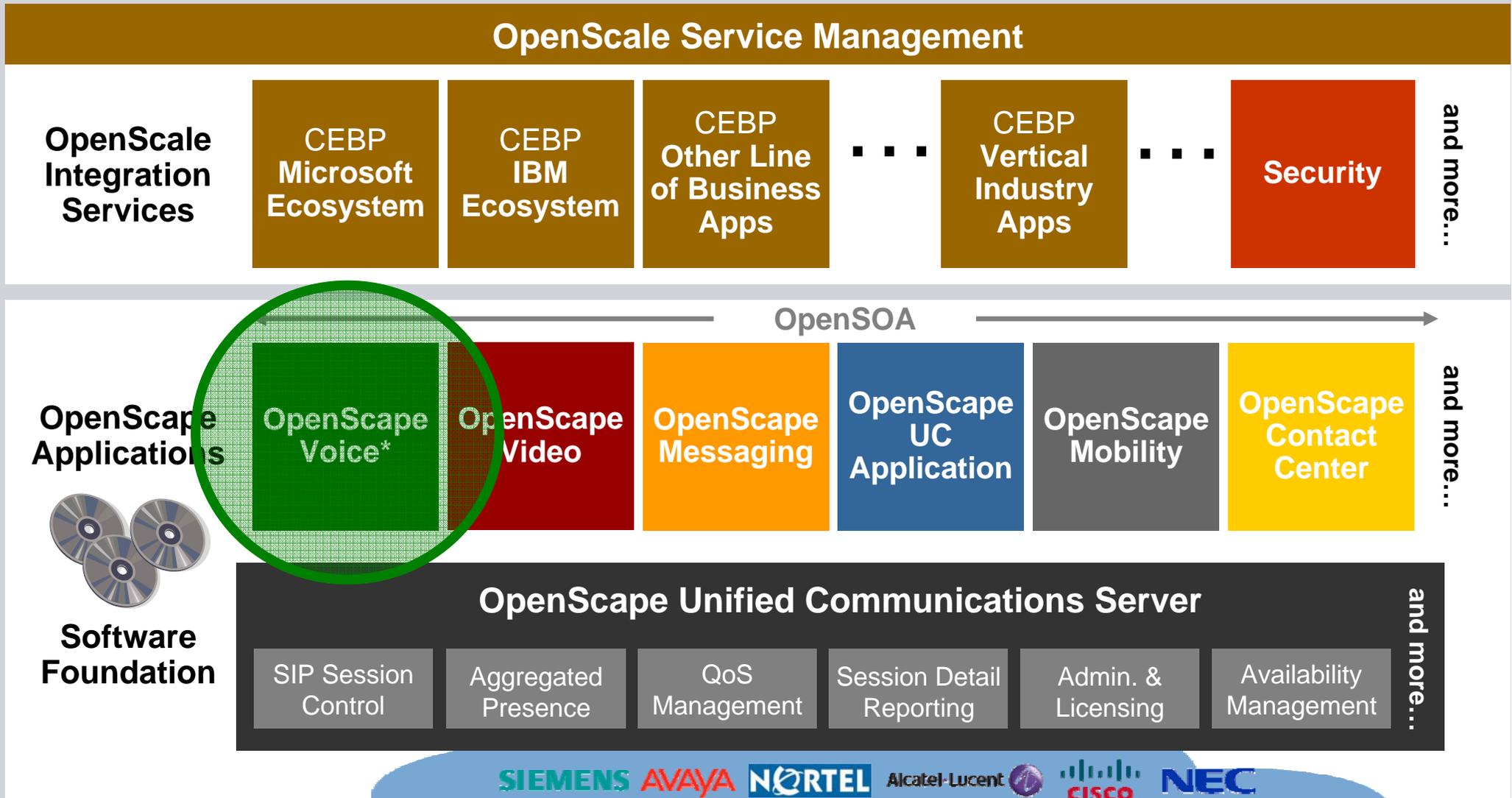
SEN Vision and Strategy

SEN Portfolio and
Open Communications Environment



OpenScale Unified Communications Suite – Vision

A comprehensive software and services portfolio



* HiPath 8000 V3.1 R2



OpenScope Exchange Hierarchical Routing of Calls within Enterprises

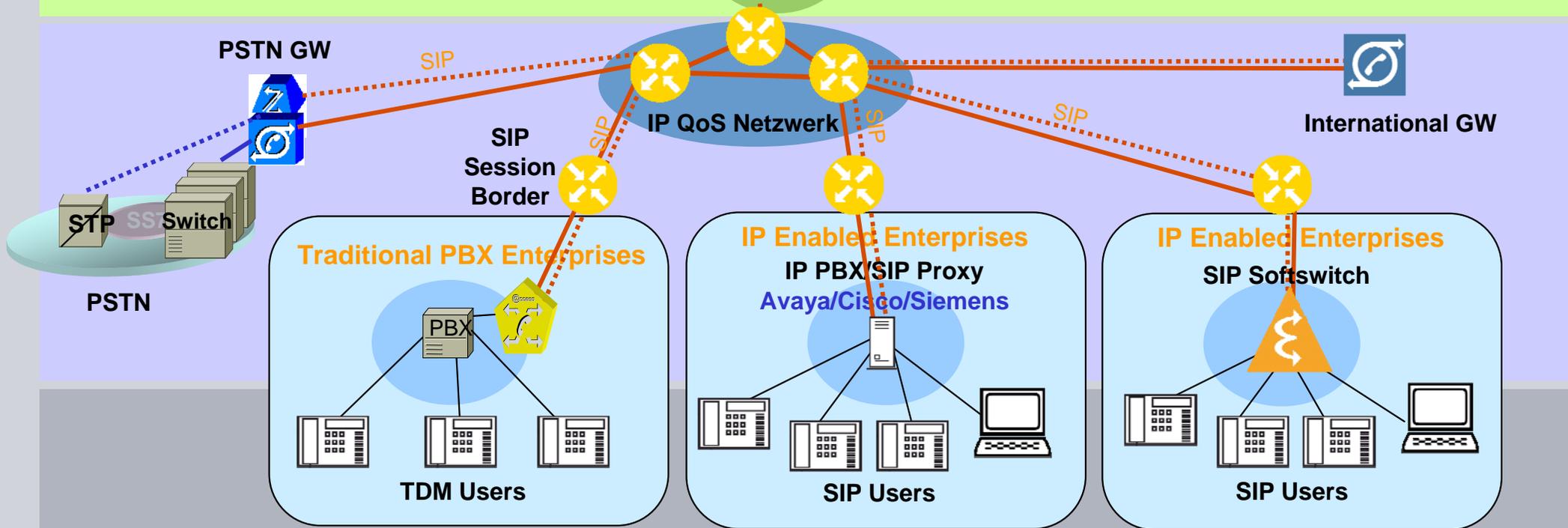
Works as "Intelligent Tandem Routing Engine"

Media Services

Applications

ENUM

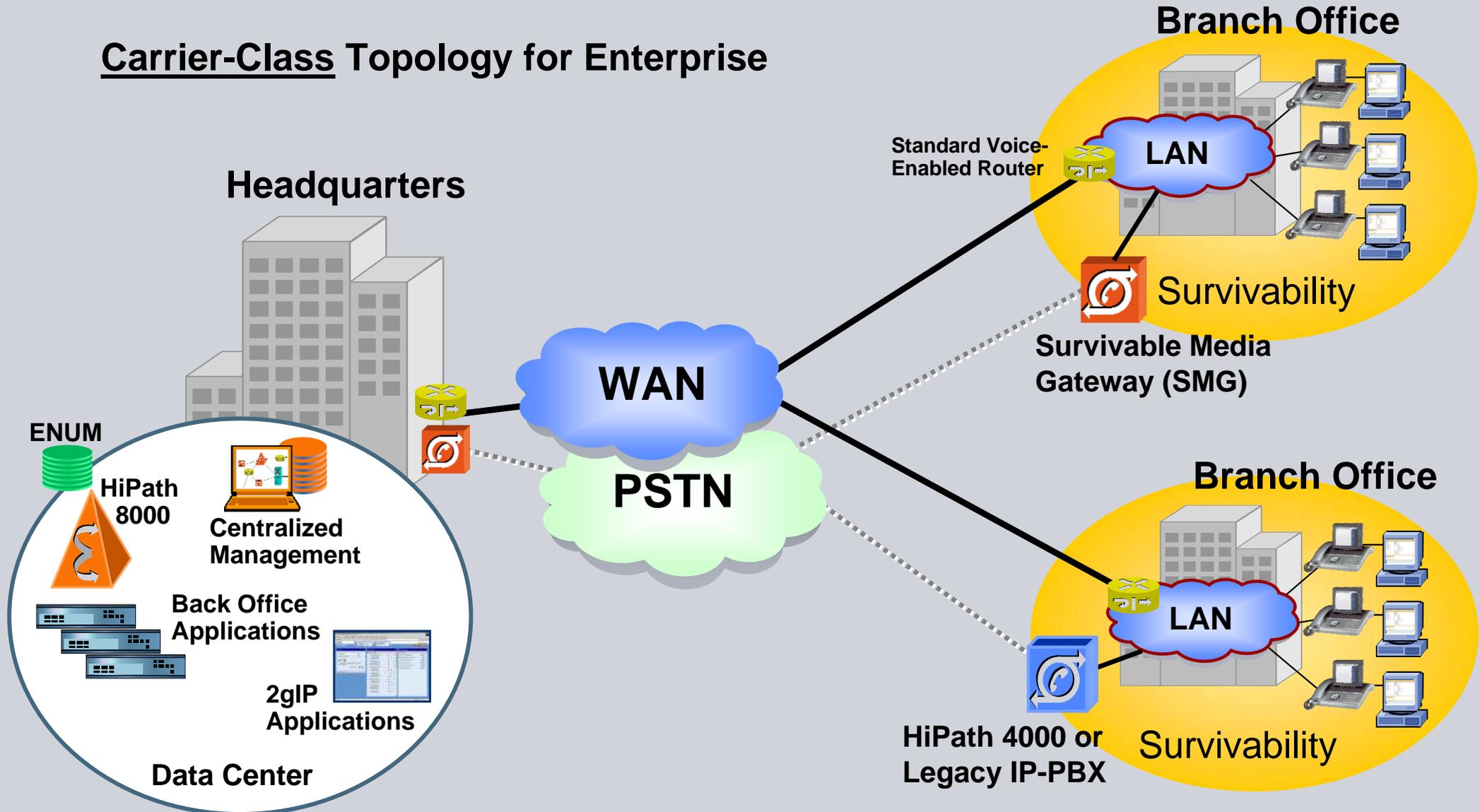
VXML & HTTP
MGCP & SIP



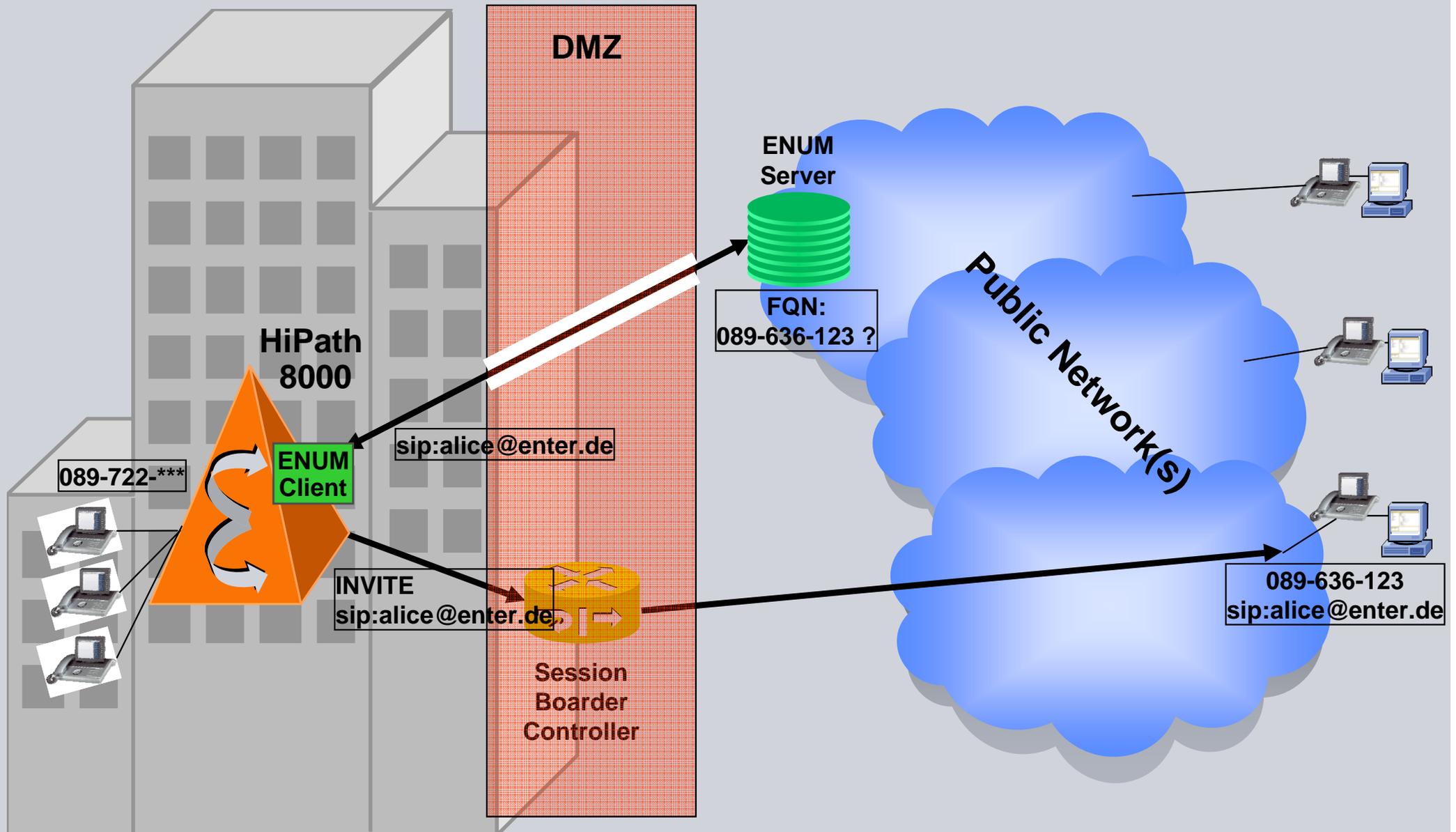
*) Future

Branch and Network Solutions Technical Overview

Carrier-Class Topology for Enterprise



HiPath 8000 ENUM Server Networking



ENUM in standards

IETF:

RFC2915	The Naming Authority Pointer (NAPTR) DNS Resource Record	obsoleted by RFC4301, RFC3402, RFC3403, RFC3404
RFC2916	E.164 Number and DNS	Obsoleted by RFC3761
RFC3761	The E.164 to Uniform Resource Identifiers (URI) Dynamic Delegation Discovery System (DDDS) Application (ENUM)	
RFC3764	Enumservice registration for SIP Address-of-Record	

ETSI:

ETSI TS 102 172	Minimum requirements for interoperability of ENUM implementations	
ETSI TS 102 051	ENUM Administration in Europe	

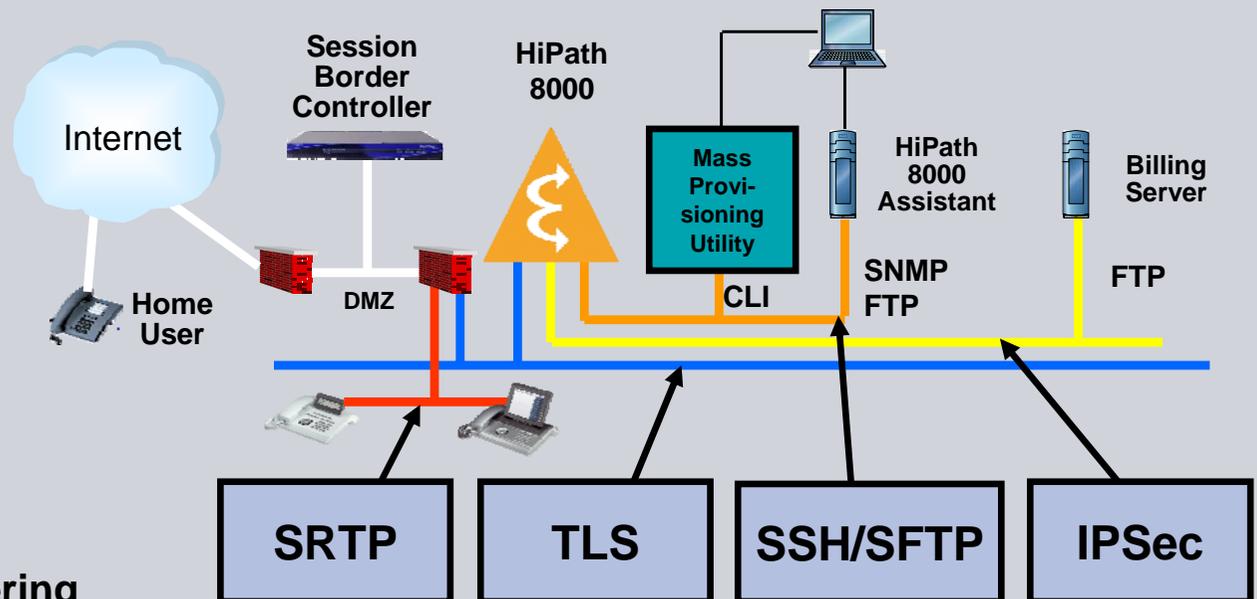
HiPath 8000 ENUM Client – Current Status

Status HiPath 8000 V3.1 (available)

- RFC3761 is supported.
- Multiple ENUM servers can be supported. Each ENUM server can have primary and secondary IP address for fail-over cases. The fail-over mechanism assures that if the primary ENUM server is not available the secondary ENUM server is contacted.
- DNS ENUM Queries always use international E.164 numbers.
- Multiple URIs in DNS responses are supported.
- Additional records in a NAPTR response such as SRV and A records are supported.
- Caching of DNS SRV and DNS A records is supported.
- All URI parameters received in DNS responses will be contained in the subsequent SIP INVITE requests.
- ENUM translation is possible on all calls or only on particular calls (for selected directory numbers only)
- In case no DNS ENUM lookup answer is obtained from the DNS server normal call handling, e.g. via the PSTN or even via IP takes place.
- The ENUM Tier 0 Zone can be configured per HiPath 8000. The default value is “e164.arpa”.
- With HiPath 8000 digit translation it is possible to specify an alternative Tier 0 zone per dialed directory number. Furthermore, alternative country codes may be obtained per dialed directory number.

Security Features

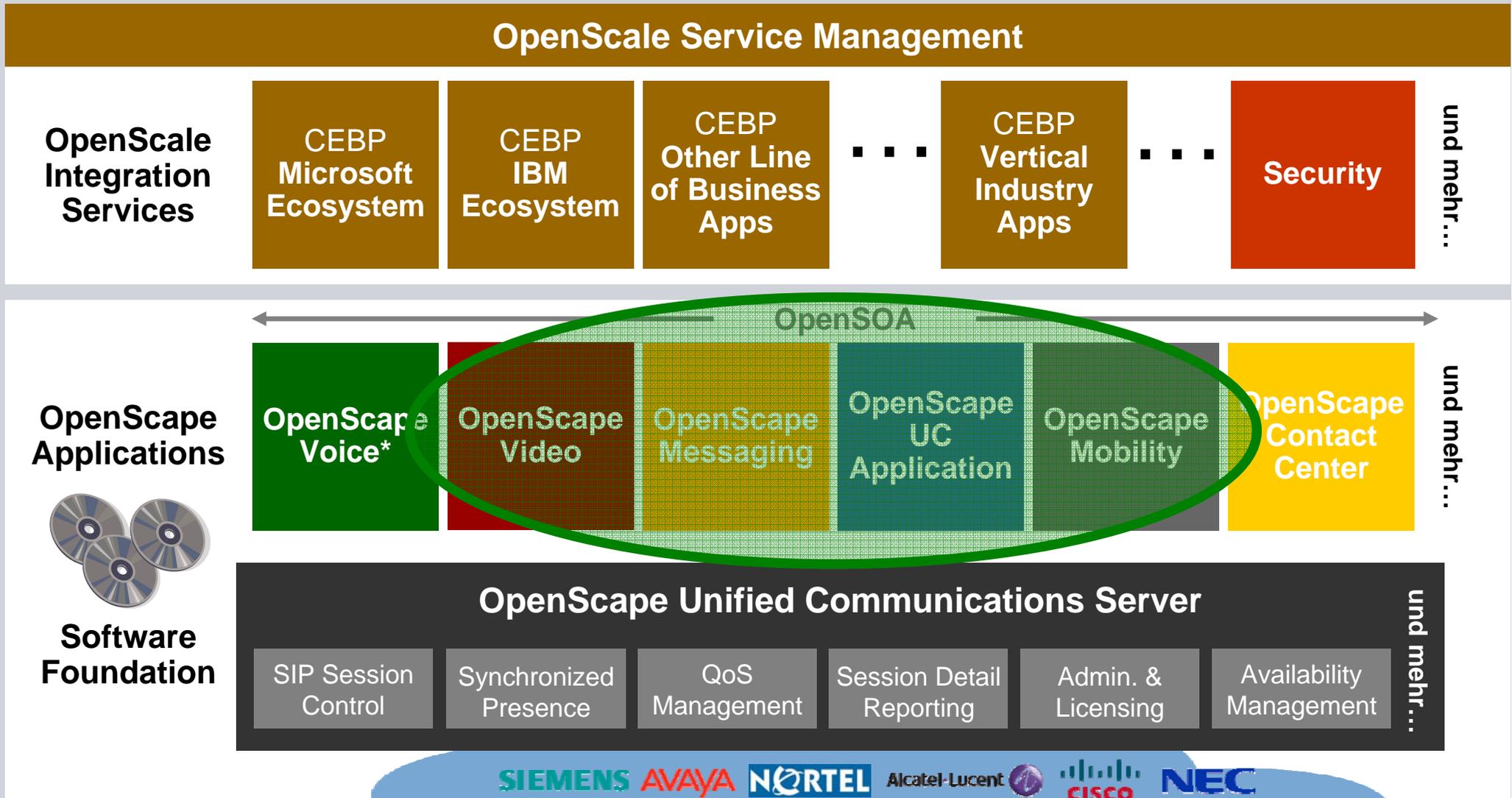
- **End points security**
 - 802.1x support
 - Digest Authentication
 - Transport Layer Security (TLS)
 - SRTP encryption
- **Management security**
 - Secure FTP (SFTP)
 - Security Shell (SSH)
 - IPSec
 - User access control
 - Authorization profiles
- **Platform security**
 - Hardened platform
 - Traffic separation / filtering
 - DoS protection
 - Virus protection
- **Network security**
 - Use of Session Border Controller
 - Perform NAT/PAT (as B2BUA)



OpenScale Unified Communications Suite – Vision



Ein umfassendes Software- und Service-Portfolio



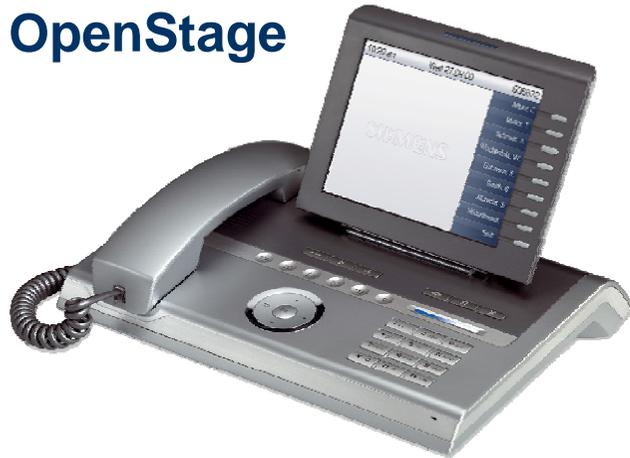
* HiPath 8000 V3.1 R2

Jede Client-, IP-, IT- oder Telefonie-Infrastruktur

Siemens SIP Portfolio - Innovative Devices, Softclients and Standard Mobile Phones



OpenStage



product design award

2007



OpenStage 80

OpenStage 60

OpenStage 40

OpenStage 20

Standard Mobile Phones w/ FMC client



optiPoint
WL2 professional



optiPocket



optiClient130

SIP Interoperability is Reality

OpenScape Voice

Applications

- iPeria Application Server
- Pactolus Application Server
- IPUnity Application Server

Gateways

- Mediatrix
- Audicodes
- Vegastream
- Cisco

Telephones

- Cisco
- Pingtel
- Polycom
- WiSIP for WLAN
- Sipgate Softclient, X-Lite

Conform with RFC 3261

Telephones

Siemens Client



OpenScape Video is an Open Video Strategie

Desktop Video



Siemens Video HD
 a) VHD 400 (Team)
 b) VHD 600 (Group)



OpenScape Client



Siemens "UC Server"
 OpenScape + HiPath 8000



3rd party High End Video / Conferencing
 a) Tandberg
 b) Others

Conference Room Video / HD Video

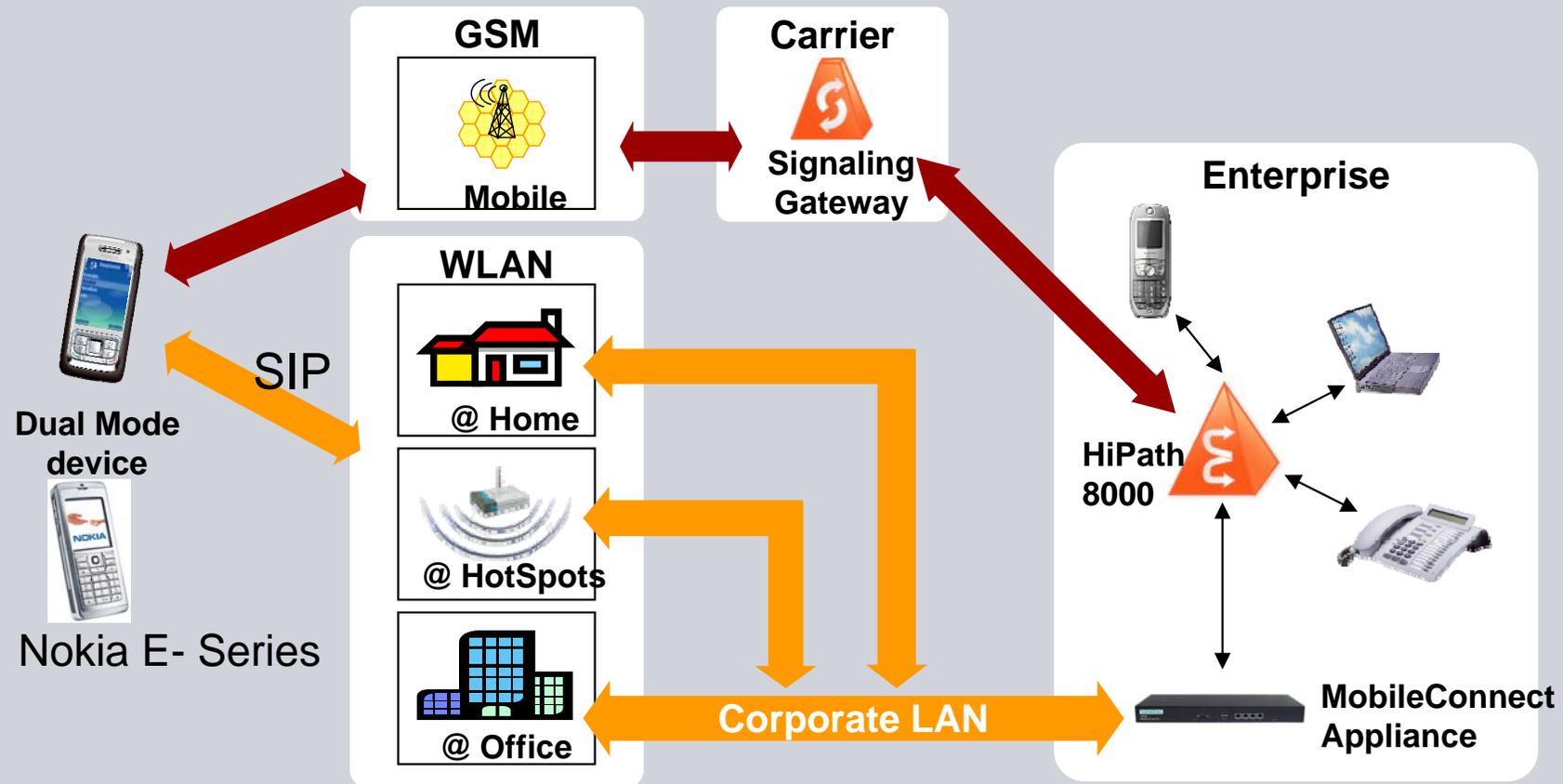


TANDBERG



HiPath MobileConnect

Mobile Communication via WiFi/Internet and GSM



- Eliminate mobile network service costs while employees are on campus.
- Roaming between Networks occur transparently and automatically for seamless call continuity
- Provide employees with only one communications device.
- Utilize enterprise network least-cost-routing capabilities.
- Enhance user experience with a single number, device, interface, mail box.
- Deliver enterprise call features to users on and off campus.



Siemens Application Strategy

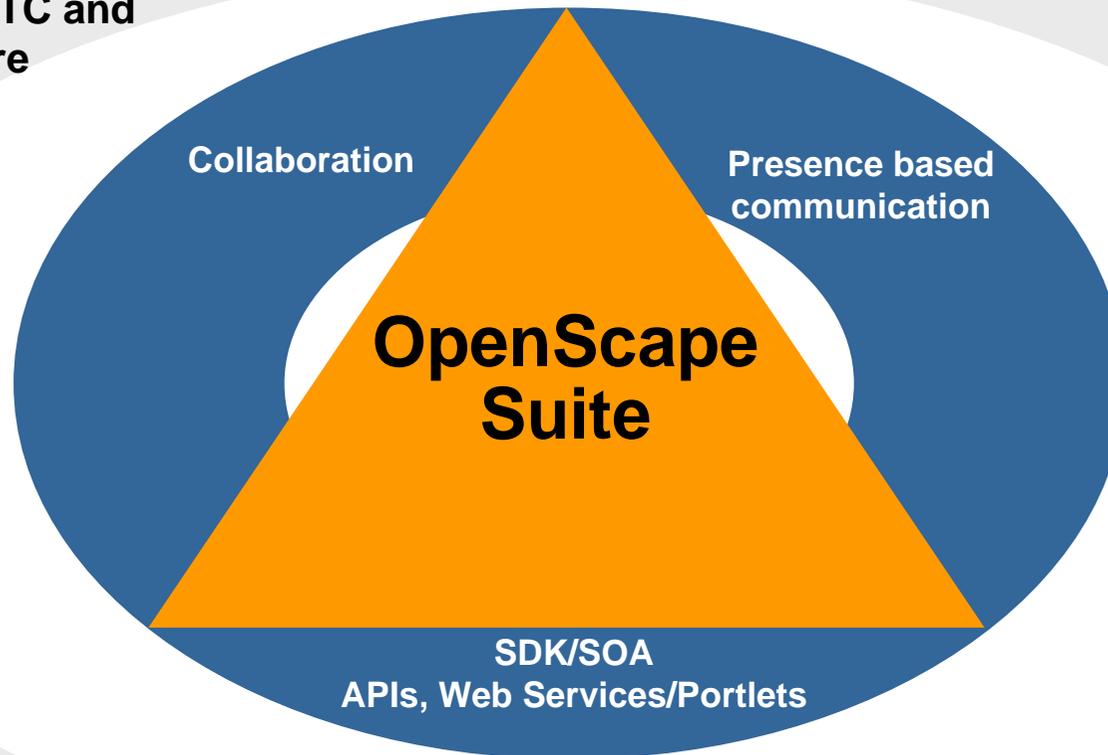
Open Communications Based on OpenScape



Connectivity to any TC and IT Infrastructure



Various Devices



Integration into Business Process Applications

Integration with



alt. Microsoft
 - OCS 2007
 - Exchange 12

Service Oriented Architecture (SOA)

OpenScope V3 & beyond User & Access Choices



User oriented Communications

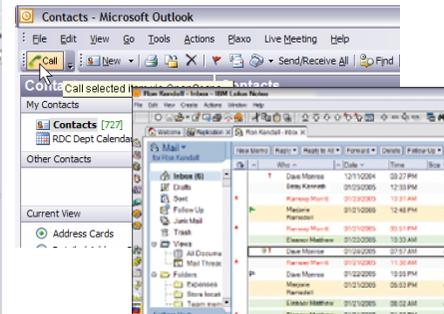
The image shows two screenshots of the OpenScope software interface. The top screenshot is the PC client, displaying a 'Communication' menu with options like 'Call History' and 'Contacts / Search'. Below this is a 'My Contacts' list with names like Adam, Basar, Erin, Grobar, Mandy, Markam, Carla, Diesel, Elenora, Adam, Helen, and PM Conference. The bottom screenshot is the Web Client, showing a similar interface but with a search bar and a 'My Contacts' list.

PC Client (SIP & HFA)

Web Client



Mobile Client



Groupware Plug-Ins



OpenStage Client



Voice Portal Client

Open Communications is Available: Miercom tested HiPath 8000

Key findings and conclusions:

- *“The HiPath 8000 is a native SIP softswitch supporting open standards designed for centralized data center deployment*
- *HiPath 8000 and OpenScape systems integrate presence and telephony functions with Microsoft Office Communicator and IBM Sametime clients*
- *It offers Fixed Mobile Convenience as illustrated by the seamless handover between the WLAN and cellular environments*
- *HiPath 8000 and OpenScape offer extensive Software Development Kits to allow telephony and presence integration for customizing business applications*
- *Over 300,000 calls processed with zero failures in a nine hour reliability test”*

The Miercom logo features the word "Miercom" in a white, bold, sans-serif font, set against a dark blue background. A white curved line arches over the letters "i" and "e".

Lab Testing Summary Report

May 2007
Report 070521

Open Communications

User-oriented

Seamless, intuitive and convenient

Consistent, open, unified interfaces

Flexible, scalable, resilient

Any device, location, network

... and lowest TCO

Grow Revenue



Asset Efficiency



Corporate Excellence



Reduce Operating Costs



SIEMENS

Communication for the open minded

Thank you!

johann-heinrich.schinke@siemens.com

