AVAYA

INTELLIGENT COMMUNICATIONS

SIP Trunking Seminar
Converged vs Separate Voice

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Global Solutions Management - SIP

The World Is Changing

from	Separate services: Local, long distance, mobile, video, Internet	to	Bundled services: All distance voice, voice/data/video packages
from	Separate platforms: Phone for voice, computer for Internet	to	Multi-use devices: Blackberries; mobile phones with messaging, e-mail, video; computer for Internet phone and IM
from	Separate providers: Cable companies for video, phone companies for voice	to	Multi-product providers: Cable, mobile, and wireline companies offering voice/video/data

New Era of Intelligent Communications

Intelligent Communication Solutions should:

- Seamlessly and openly integrate communication applications and business applications
- Intelligently connects **Employees**, **Customers** and **Processes** to the right people at the right time through the right medium
- Deliver business agility with speed, responsiveness and control, increasing global competitiveness

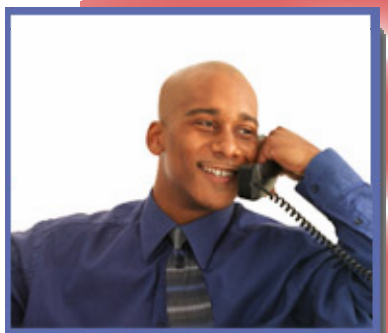
What does Intelligent Communications Look Like?


Contact Centers


Unified Communication


Collaboration


Conferencing


Telephony


Email


Mobility & Softphone

Voice Messaging


Instant Messaging

Avaya Intelligent Communication Vision

Optimize your business by embedding communications into the fabric of business processes

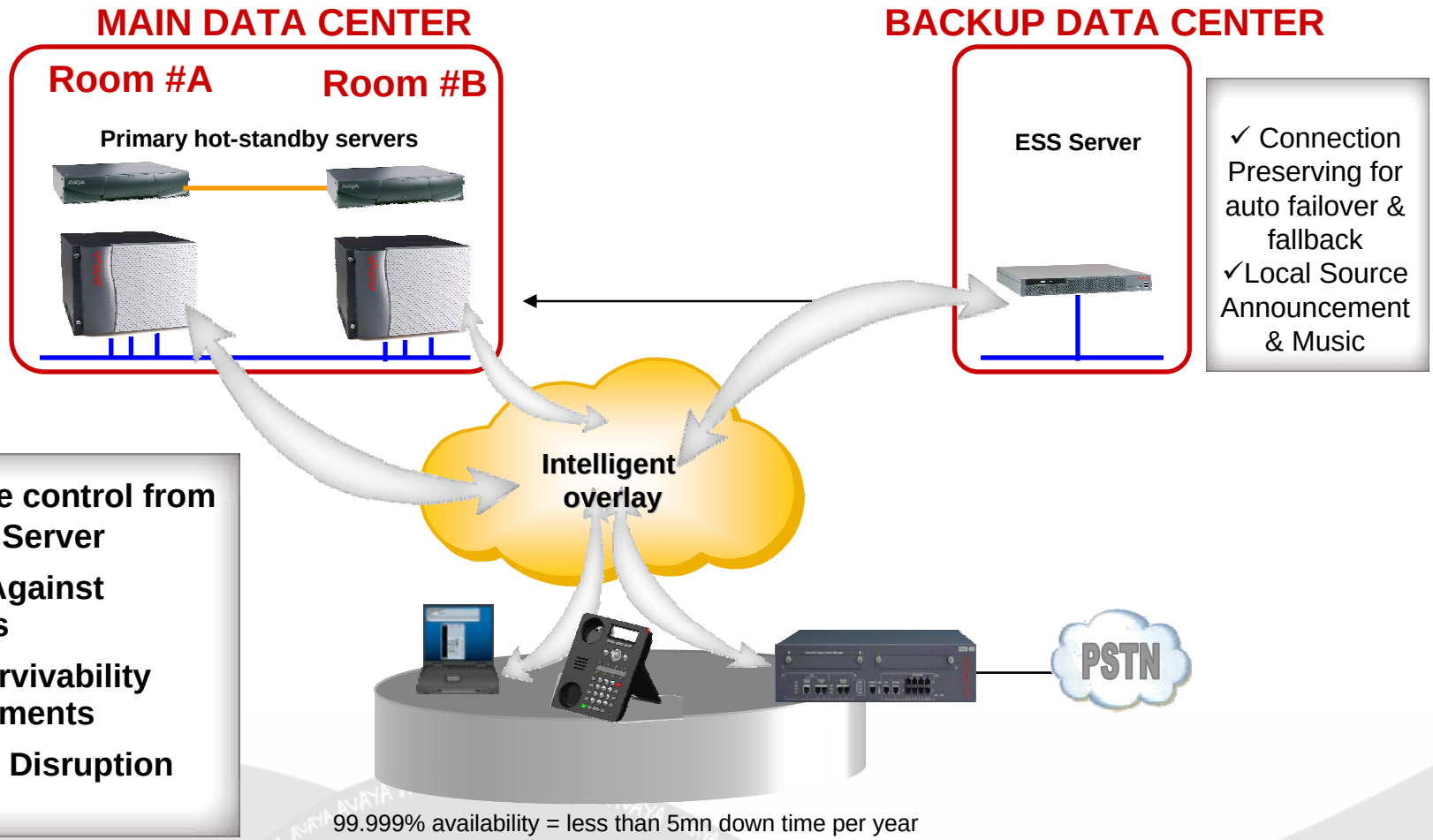
Optimize your people wherever they are, across devices and interfaces

Optimize your customer relationships globally across all points of contact

Optimize the connections of your people, customers and processes

A strategic, business-focused, approach to communication delivering competitive advantage today

Today: Leading Business Continuity



High Availability without Complexity

Virtual Enterprise of Tomorrow

Enterprise

IP Telephony Server

Data Network

WiFi/ WiMAX

PSTN

Small Office

Small Branch

Mid-Size Campus

Interworking over SIP

Service Provider

IMS IP Multimedia Subsystem

Application Services

Service Execution Framework

Access Control

PSTN

Mobile Network

Data Network

Required Attributes:

- SIP, H.248, H.323, QSIG Networking
- Presence: Enterprise-Wide & Federated
- Scale up to Large, down to Small
- Multiple Domains: P2P and Centralized
- Next Generation CTI: Call and Context

Support, Consulting, & Systems Integration

Assumptions …

- Assuming that you are converging your communications
- How do you connect everything?
- What do you do with your LAN / WAN ?
- Is SIP trunking the answer?

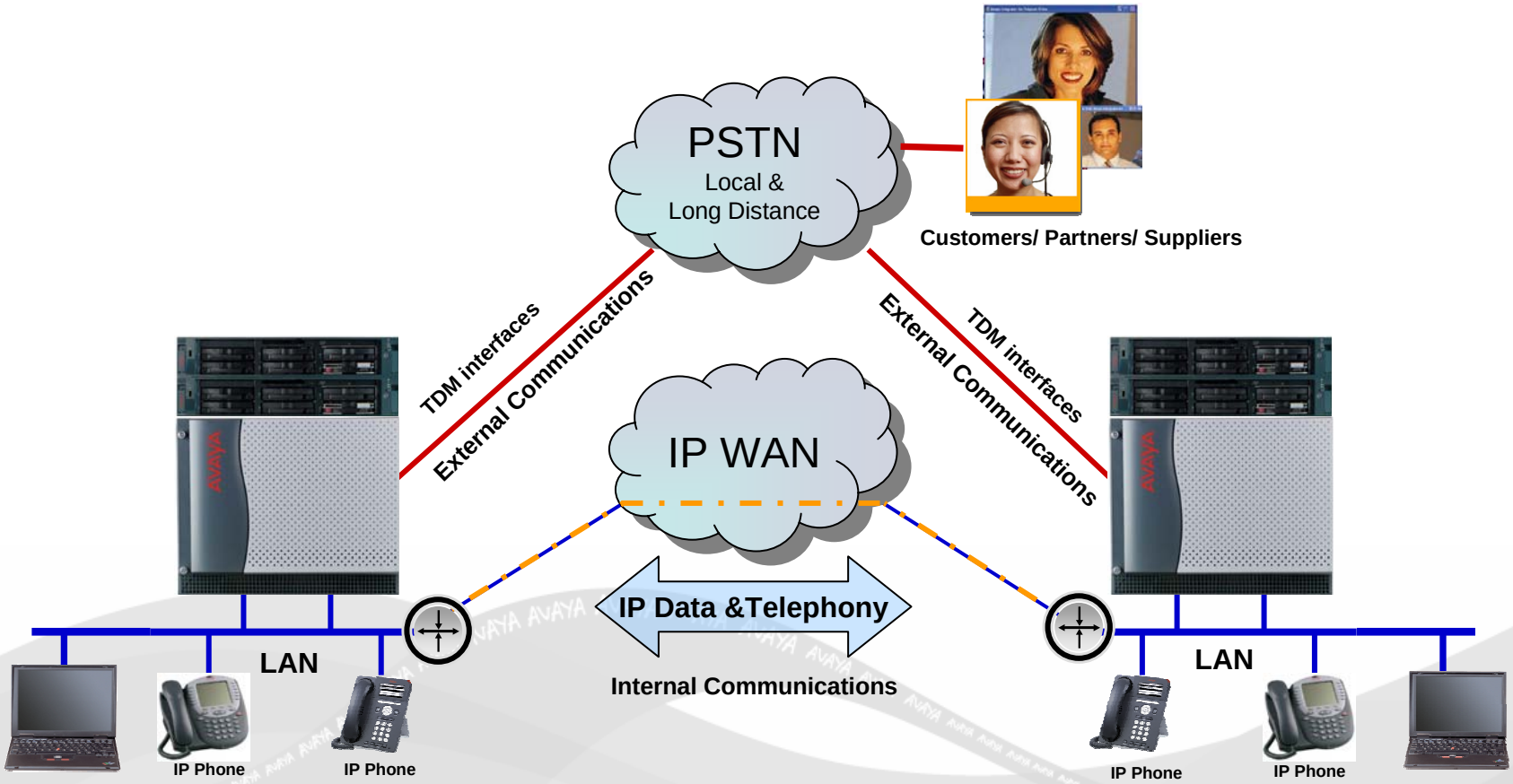
"SIP trunking is growing in importance, with 65% of IT-executive participants in Nemertes' forthcoming benchmark, Advanced Communications Services, thus far reporting that they are either evaluating or planning to implement SIP trunking within the next two years,"

Irwin Lazar, principal research analyst, Nemertes Research, Jan 2008

Why SIP Trunking?

Limitation & Challenges of Private IP (H.323) Trunking

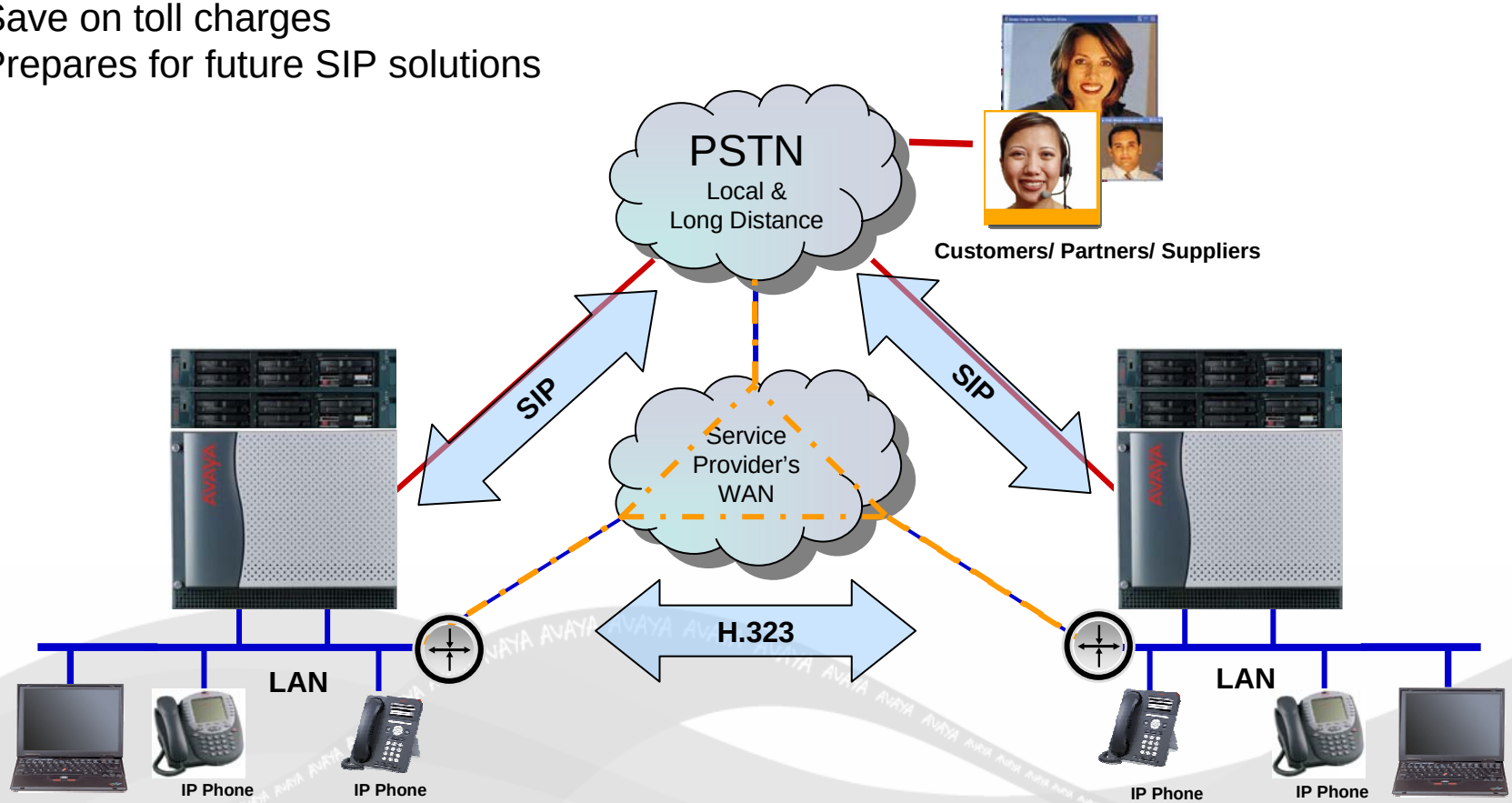
- Private IP (H.323) trunks are limited to VoIP communications between internal systems/sites
- Separate TDM interfaces are required for external communication (partners/suppliers/customers)
- Extra cost, extra hardware, extra complexity



SIP Trunking

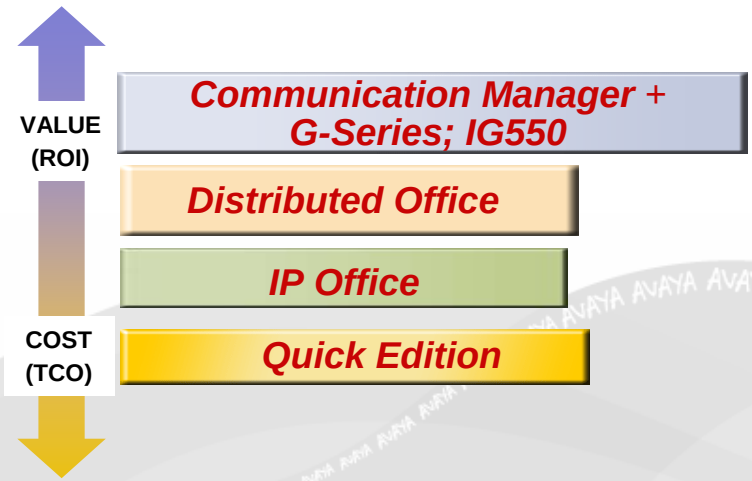
A Single Pipe to the Cloud

- Single IP link for voice/Multimedia/Data
- Optimize use of WAN access by consolidating voice and data services
- Eliminate PSTN interfaces for long-distance and local access (carrier provides the gateways)
- Assign local telephone numbers to any 'virtual location,' independent of physical location
- Save on toll charges
- Prepares for future SIP solutions



Connecting Remote Offices

- Define your branches, remote offices, remote workers
- Connectivity for voice and data
- Feature set
- Survivability, security, redundancy



Mobility Delivers For Remote Workers

Transforming 50M deskphones to 150M endpoints

Desk phone

Customers want the power of their desk phone on their cell phone

Mobile phone

- Easy switching among all endpoints
- Least cost routing
- Ubiquitous access to:
  - Corporate directory
  - Shared call log
  - Single message store
  - Simplified conferencing
  - Click-to-dial
  - Presence
  - Rich caller ID

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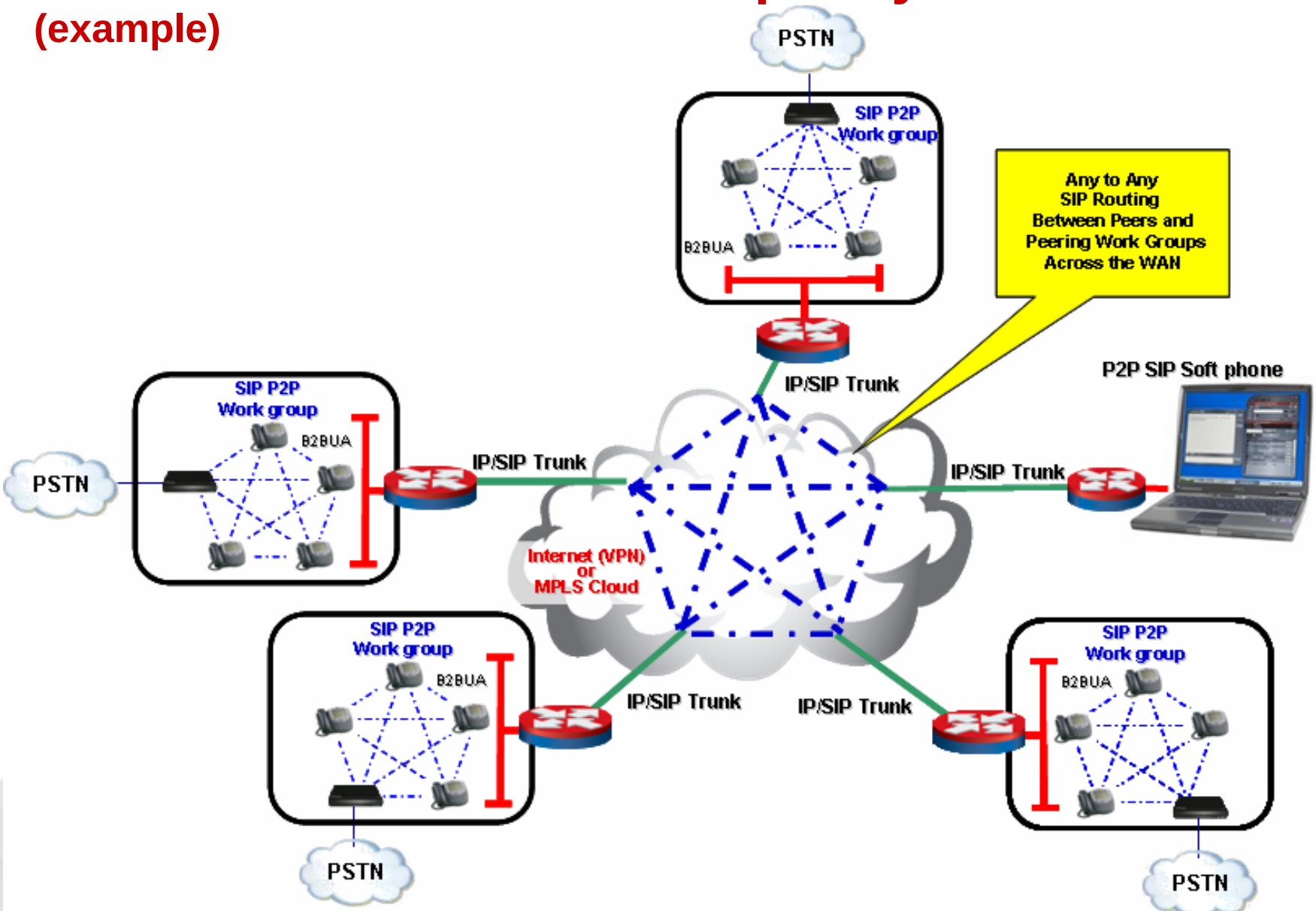
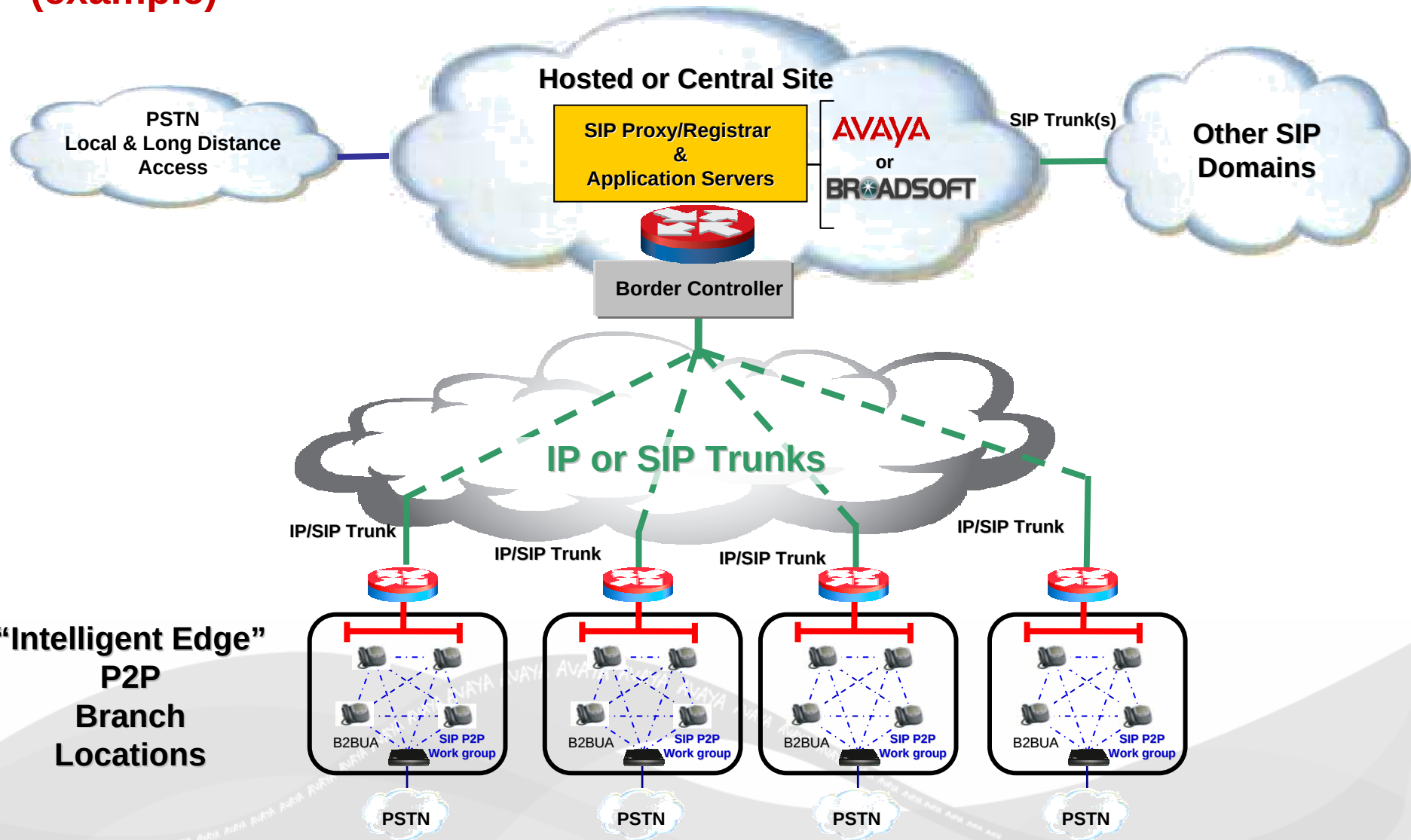
PC

Customers want maximum leverage from their PC

P2P SIP Distributed IP Telephony Architecture
(example)



P2P SIP Hybrid Hosted Services Architecture (example)

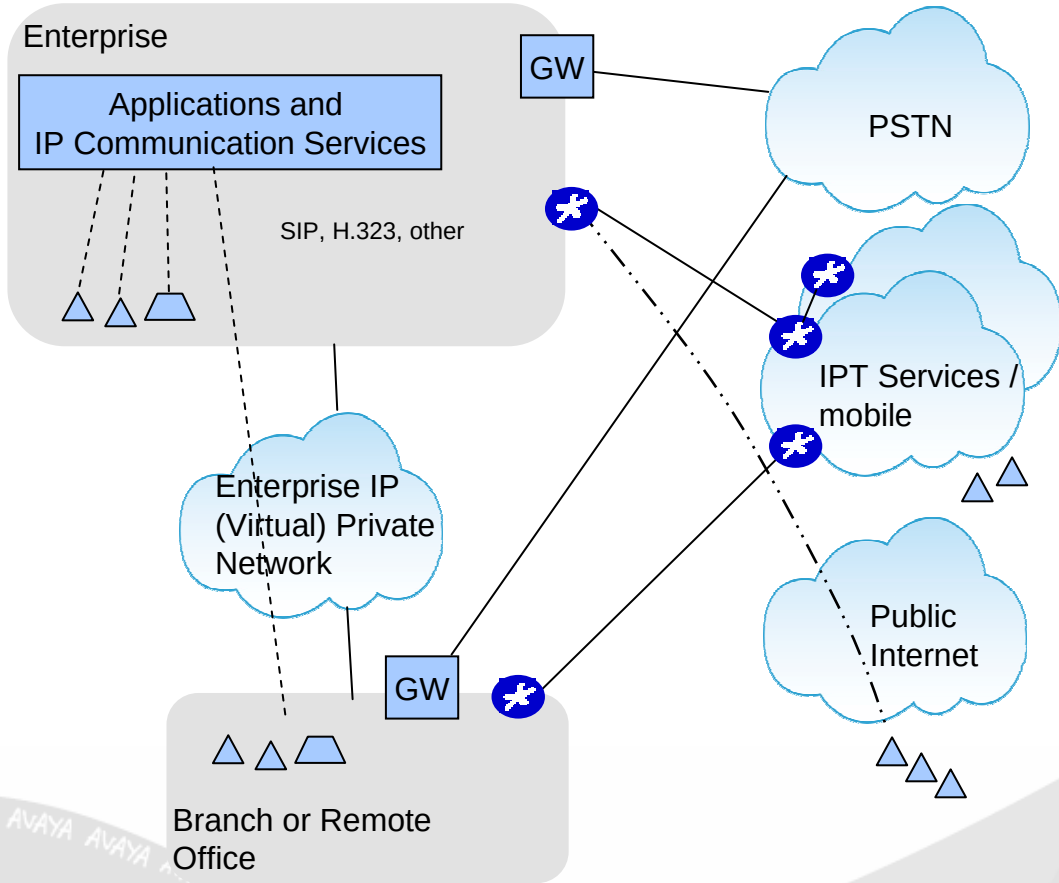


"Intelligent Edge" P2P Branch Locations

Where You Typically Find SBCs

- Service provider to service provider peering
- Service provider Access
- Enterprise access
- Enterprise edge security

- A few of these scenarios are described in this diagram
- SIP trunks could be the links in each scenario



Role of Session Border Controllers

Challenge:

In some scenarios, SIP traffic may have to cross a firewall and/or a NAT (Network Address Translation) devices. IP address associated with UAC can be mistranslated by traditional firewalls. SIP addresses (URI's) may need to be translated to phone numbers (E.164).

- IP signaling (includes interworking)
- NAT firewall/NAT traversal
- Selective media routing
- Call admission control
- Denial of Service protection
- CDR generation
- VoIP firewall
- QoS measurements
- ENUM Service

SBC Evolution

SBCs vary in feature/function implementation

2003-2004

- Denial of Service Protection
- User Authentication
- Network Transition
- Topology Hiding
- Ingress Policy Enforcement

2005-2007

- Transaction Logging/Recording
- SIP Signaling Normalization
- Egress Policy Enforcement
- Session Management
- Call Admission Control
- Inspection of RTP
- Support of multiple dialects
- Lawful intercept

2006 and Beyond

- Media Recording
- Media Services
- Media Policy based routing
- IM/Presence Policy Enforcement
- IM recording
- QoS monitoring
- File Transfer Policy Enforcement
- TLS and SRTP support
- High Capacity Registrations
- Registration Offload
- Emergency number interop w/ENUM

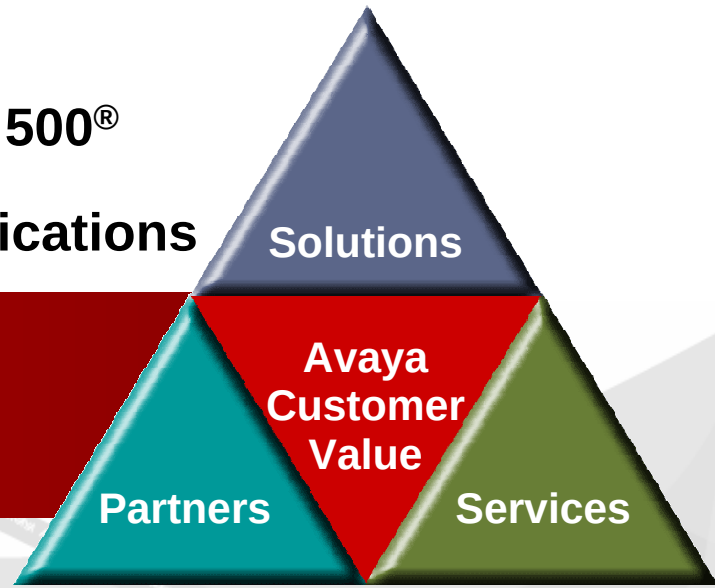
To Think About

- Converging your communication
- Workers can be everywhere at any time!
- Branch, small offices, virtual office, on the road
- QoS, quality of voice communications
- SIP trunking will move into SIP Peering
- Architect your future to take advantage of technology changes

Avaya, a Global Leader in Business Communications Applications

- 100 years of experience and innovation in our DNA from AT&T to Lucent Technologies
- 18,634 employees in 54 countries
- 2,500 Business Partners
- 6,000+ *Developer Connection* Partners & Global Alliance Partners
- 1 million+ customers -- 90% of FORTUNE 500®
- 4,180+ Avaya Labs patents or patent applications

…customer path, pace and choice



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Thank You!

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