Introduction to SIP Trunking:
Service Provider Perspective

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Agenda

- **BroadSoft Company Overview**

- **What is Service Provider SIP Trunking?**

- **Market Perspective**

- **Key Considerations for Service Providers**

About BroadSoft

VoIP Application Software

- Hosted PBX / IP Centrex
- Business Trunking
- Residential Broadband

Market Leader

- Founded in 1998
- 250+ fixed & mobile service providers
- 7 of top 10;13 of the top 25 global carriers
- 46 incumbent customers

Partner of Choice

- 5 of top 6 TEMs resell BroadWorks
  - Alcatel Lucent, Ericsson, Huawei, Nokia- Siemens
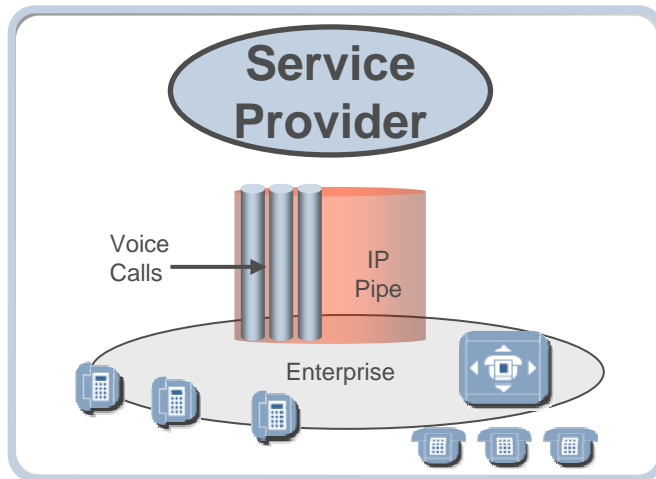- 150+ interop partners

Innovator

- Commercially deployed 6+ years
- Voice & multimedia applications
- First mobile PBX deployed

What is Service Provider SIP Trunking?

SIP Trunking

Integrated Access to IP-PBXs

Service Provider

Voice Calls

IP Pipe

Enterprise

- **SIP Trunking is an alternative PSTN connection type for IP PBXs that:**
  - **Replaces the traditional ISDN or analog lines with VoIP/SIP**
  - **Offers enterprise & service providers a number of advantages over traditional PSTN connections**

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Market Perspective:
There's A Fundamental Shift to SIP Trunking in 2008

- **A global shift to SIP or SIPconnect IP PBXs**

  - **82% of premise gear shipments will be IP-based**

- **Installed base becoming all IP**

  - **Majority of installed CPE will be IP by 2009**

- **Majority of service provider players offering SIP trunking now or near future**

  - **Adding to existing integrated access services**

  - **Verizon, AT&T, PAETEC/McLeod USA, many more**

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SMBs and Enterprises are Demanding It

- **Voice Services Savings**
  - **Eliminates (or greatly reduces) the premises TDM gateway or IAD**
    - Saves $1K - $2K per installation
    - HW & SW support costs are 5% lower
  - **Save 25% on monthly recurring service fees (vs. PRI)**
  - **15% lower IP PBX equipment capital costs**
- **Improved voice quality**
  - **Standardized QoS**
  - **Eliminate latency**
- **More Flexible Service Offerings**
  - **DIDs available for small companies/branches (sub-20 people)**
  - **Geographic portability – move to different rate centers and keep your numbers**
  - **New service to help their business**
- **New employees and circuits turned up in minutes, not days**
  - **No truck roll**
  - **No visit to the wiring closet.**

SIP Trunking is THE Opportunity for Service Providers

- **SIP Trunking: huge opportunity in the VoIP Market**
  - **SIP Trunking: $8.7B by 2010**
    - TDM Trunking: $700M
  - **2008, 82% of shipments will be IP**
- **Feature upsell adds revenue**
  - **Network-based services complement the IP PBX**
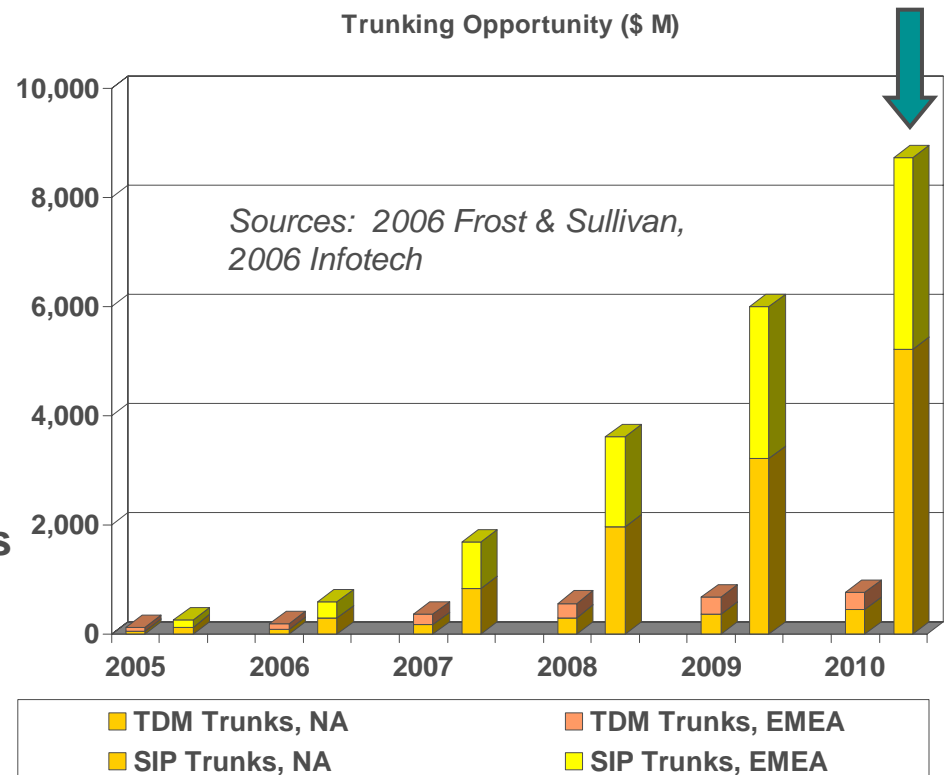- **SIP Trunking market is wide open**
  - **It's a new offer**
  - **New hardware**
  - **TDM Trunk/PRI replacement offers are a dime a dozen**
- **Optimized sales via the Agent Channel**
  - **Agents own the end user**
  - **Better terms and support**

Total SIP Trunk Opp = $8.7 B

Trunking Opportunity ($ M)

Sources: 2006 Frost & Sullivan, 2006 Infotech

Legend:
- TDM Trunks, NA
- TDM Trunks, EMEA
- SIP Trunks, NA
- SIP Trunks, EMEA

(Total revenue opportunity) * (Premises Gear Shipment %s)

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US Service Providers are committed to SIP Trunking

and the list goes on….

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EMEA Service Providers are committed to SIP Trunking

SIP Trunking: What US Service Provider customers are Selling?

- **Typically sold by competitive carriers (CLECs) to small businesses (5-100 seats)**
- **Voice and data (broadband) combined over single pipe**
  - Could be over T1, E1, SDSL, ADSL, Ethernet etc.
  - Typically over T1 but increasingly larger bandwidth sales
- **General End Customer Value Proposition**
  - MORE broadband for same or less money
  - Dynamic bandwidth allocation (you can use the bandwidth when not on the phone
  - Parity with existing voice features; voice features not available from existing provider
  - Bundling of other revenue-generating managed services (Mobile, PC backup, Hosted UM, SaaS, etc.)
  - Web management and control

Why Selling In US?

- **Healthy competitive market**
  - Lots of competitive carriers selling to SME market
- **Prior success in selling Integrated Access**
  - TDM version has been around for 5 years
  - Trained sales force
- **Data-voice arbitrage**
  - Data T1 access cheaper than Voice T1/PRI
- **Favorable regulatory climate**
  - Easy to get local unbundled "loop" for service
- **Easy local number portability**
  - SMEs get to keep existing numbers
  - Less than 30 days
- **End users "get" the value of more broadband**

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SIP Trunking:
Key Considerations Service Providers

- **Security, NAT Traversal, Network Resiliency, DOS prevention**
  - How are these problems solved?
- **IP PBX Interoperability Testing**
  - How to make SIP trunks as "plug-and-play" as ISDN PRI?
- **Connectivity is quickly becoming a commodity**
  - How to sell more value than just connectivity?
- **Multi-site Connectivity**
- **Emergency Service (i.e. 911) Compliance**

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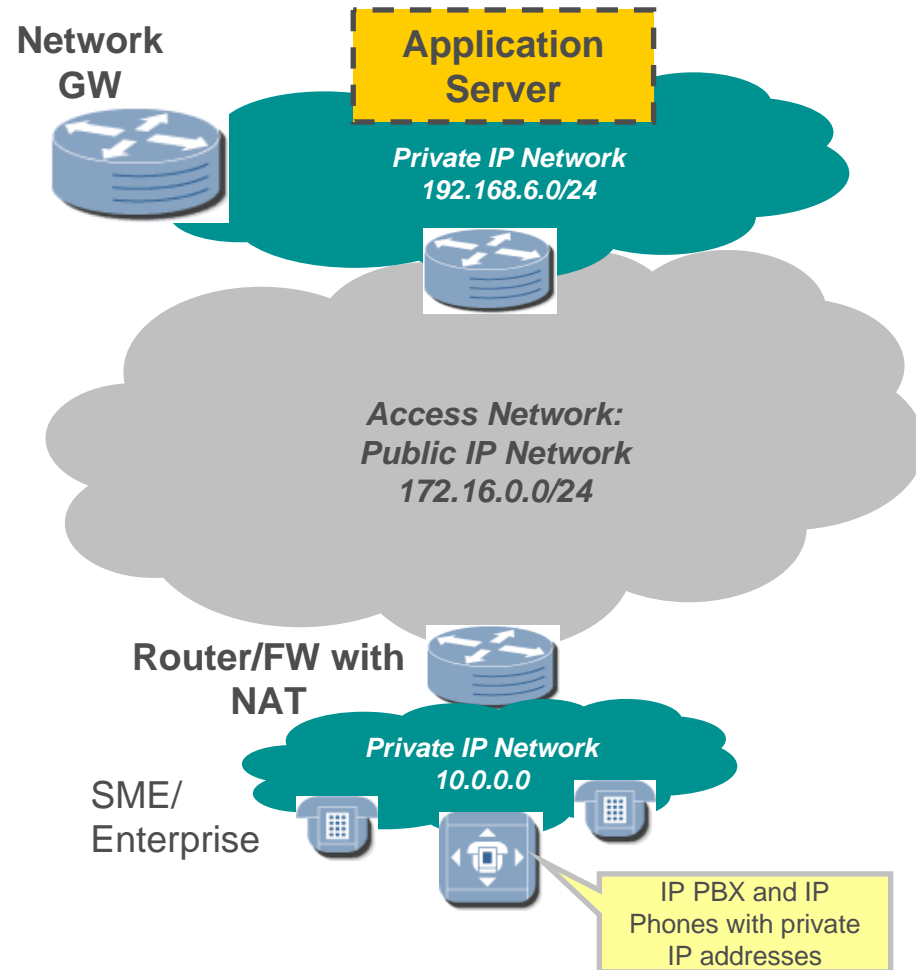# Session Border Controllers: Addressing SIP Trunking Requirements

- **Premise-based Approach**
  - *Examples: Cisco UBE, Ingate SIParator, Edgewater ALG*
  - SIP B2BUA
  - SIP-aware firewall with near-end NAT traversal
  - Support registering and non-registering devices
  - QOS Tun...
  - ...CR

Both approaches are viable!!

- **Network ... approach**
  - Examples: AcmePacket, Covergence
  - Carrier-class products
  - SIP B2BUA (routes, etc.)
  - Configurable SIP header manipulation (some)
  - Far-end NAT Traversal
  - DOS prevention/throttling

Network GW

Application Server

Private IP Network 192.168.6.0/24

Access Network: Public IP Network 172.16.0.0/24

Router/FW with NAT

SME/ Enterprise

Private IP Network 10.0.0.0

IP PBX and IP Phones with private IP addresses

13

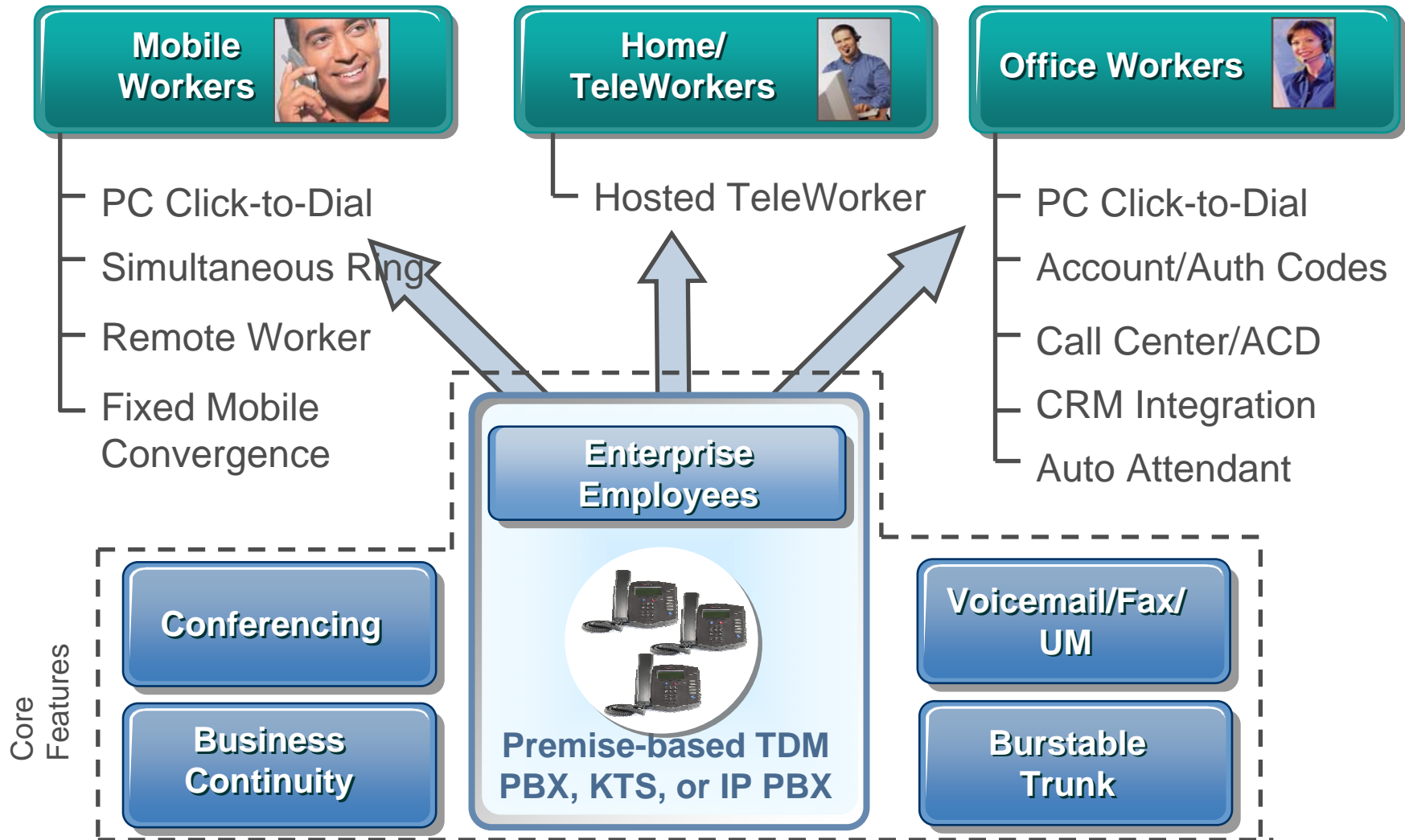# How to make a SIP trunk as plug-and-play as ISDN?

- **Short Term**
  - **SIPconnect 1.X**
  - **Lots of IP PBX Interoperability Testing (investment)**
  - **Vendors test as early in the process as possible before getting to Service Provider**
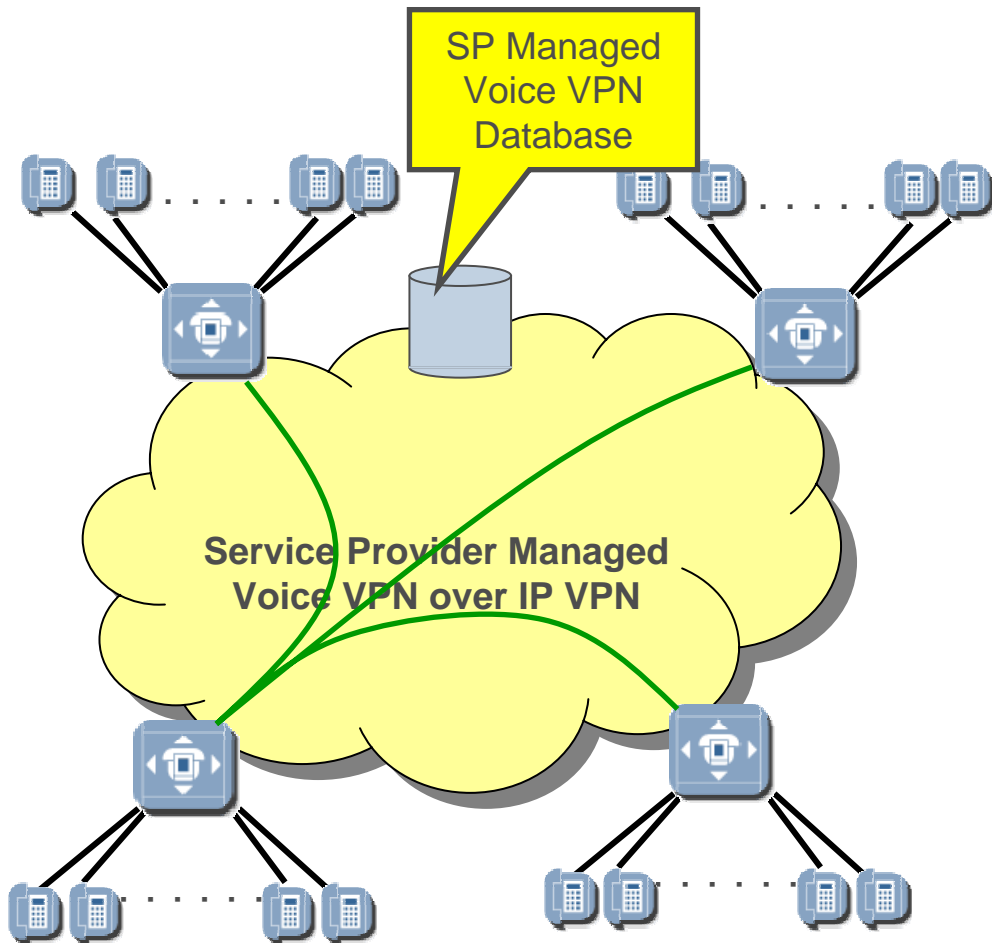
- **Long Term**
  - **Next version of SIPconnect**
  - **Strict SIPconnect compliance testing**

Selling More than Just "Connectivity": Overlay Features

Mobile Workers

- PC Click-to-Dial
- Simultaneous Ring
- Remote Worker
- Fixed Mobile Convergence

Home/ TeleWorkers

- Hosted TeleWorker

Office Workers

- PC Click-to-Dial
- Account/Auth Codes
- Call Center/ACD
- CRM Integration
- Auto Attendant

Enterprise Employees

Premise-based TDM PBX, KTS, or IP PBX

Core Features

Conferencing

Business Continuity

Voicemail/Fax/ UM

Burstable Trunk

SIP Trunks Enable Easy Multi-Site Voice Communications

SP Managed Voice VPN Database

Service Provider Managed Voice VPN over IP VPN

- **Broad Geographic Coverage**
- **Multi-vendor IP PBX support**
- **Extension Dialing between Sites**
- **Simplified, centralized administration by Enterprise**
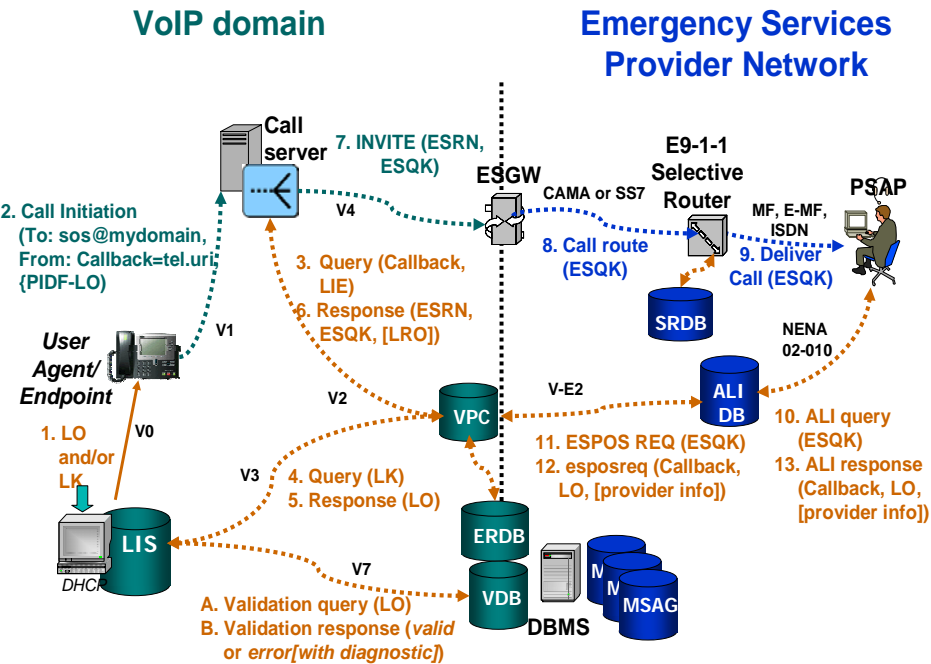- **Easy to implement Business Continuity Scenarios**

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Emergency Service (i.e. 911) Considerations

NENA i2 Generic Emergency Call Architecture

Key Requirements

- Outbound 9-1-1 emergency calling to the local PSAP
- Incoming PSAP Call Back to the originating 9-1-1 endpoint
- Delivery of location information to the PSAP for both enterprise and remote users
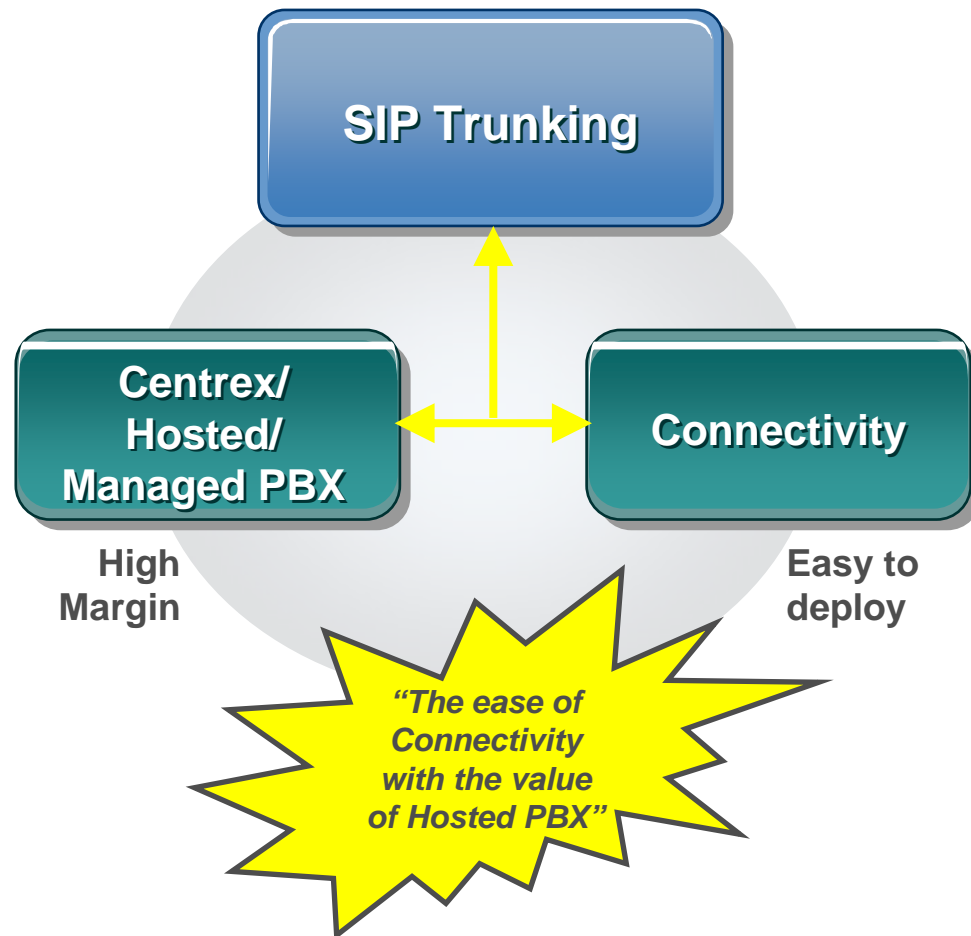
Solution

- NENA has published an interim specification called i2 in response to an FCC order
- Many network equipment vendors have implemented the necessary interfaces & platforms to allow SPs to comply with i2.
- *Key Capability related to SIP Trunking: Does 911 call work when all trunks are busy?*

17

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SIP Trunking – Hot Opportunity for Service Providers

- **Opportunity is Today**
  - **"Land Grab" underway**
  - **$20B opportunity in US over the next 5 years**
  - **Technical Solutions available and proven**
- **Business Case is Proven**
  - **Numerous operators across in US are deploying voice+data integrated access**
- **Vendors are proven**
  - **Large service providers operational for 3+ years**

SIP Trunking

Centrex/ Hosted/ Managed PBX

Connectivity

High Margin

Easy to deploy

"The ease of Connectivity with the value of Hosted PBX"

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Thank You

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