Ingate UC-SIP Trunking Summit

The SIP Trunking Value Proposition

Marc Robins
President and Managing Director, SIP Forum

SIP Forum Background

- Founded in 2000 in Sweden
- Leading Non-Profit IP Communications Industry Association
- Membership ranks comprised of Corporate "Full Members" that pay annual dues and support the work of the Forum, Academic Institutions and Individual "Participant" Members (10K+)

SIP FORUM Full Member Companies

(as of 9-14-2011)

SIP Forum Academic/Institutional Members

Columbia University:

The Fu Foundation
School of Engineering & Applied Science

FOKUS
Fraunhofer Institute for Open Communication Systems

TEXAS A&M UNIVERSITY

ILLINOIS INSTITUTE OF TECHNOLOGY

University of Glamorgan
because great minds don't think alike

Georgetown UNIVERSITY est. 1789

Gradiant

Founding SIP Forum Mission

- “Advance the development and deployment of innovative IP communications solutions that comply with, and properly interoperate with, other products and services that use the Session Initiation Protocol (SIP) protocol.”

Current Focus

- The battle for widespread adoption has been won
- The new battle cry is “interoperability” -- among end-point devices, enterprise IP-PBXs, and SIP-enabled Service Provider Networks – for all types of applications and services.

Current SIP Forum Activities

- Advances product/service interoperability
  - SIPit interoperability test events (SIPit 29 in Monte Carlo October 24-28, 2011)
  - Technical Working Group efforts include SIP Trunking (SIPconnect), Fax-over-IP, UA Config , IPv6
- Develops industry-wide technical recommendations and best-practice implementation guides (i.e., SIPconnect)
- Contribute to IETF, liaise with industry groups (i3 Forum, UCIF, IPv6 Forum, etc)

Current SIP Forum Activities, con't

- Provides Industry Licensing Programs (i.e., SIPconnect Compliant Program)
- Creates educational content
  - White papers, Informational RFCs and other reference documentation
- Builds awareness about SIP and IP Communications Technology
  - Educational seminars and other events
  - Articles and other editorial in industry online newsletters and blogs, trade magazines and journals
- Maintains growing community of IP Communications industry professionals

SIPNOC – SIP Network Operators Conference

Two-day educational conference for service providers to focus on how to "make SIP work in the network" and address the key operational issues facing SIP in today's telecom world

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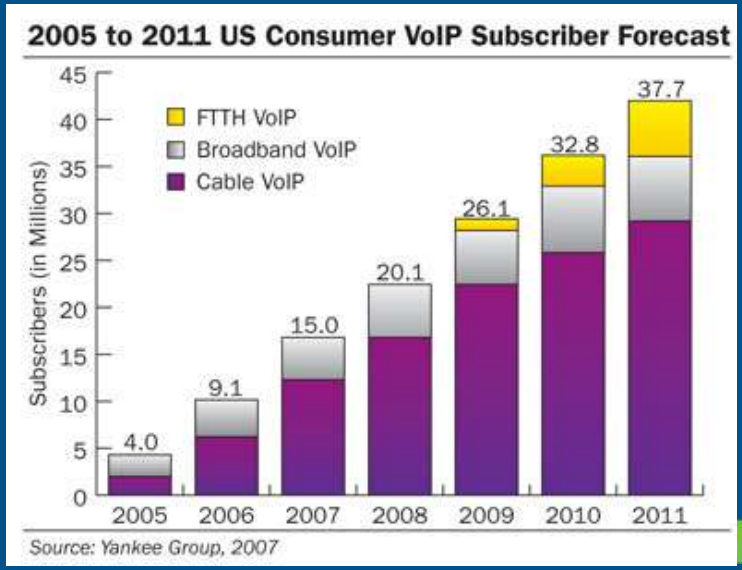
Telecom Today

- Fixed Rate services are dominating telecommunications.
  - Triple Play from Cable Operators –
- All you can eat Fixed rate mobility services
  - Buckets of Mobile Minutes
  - $99.00 voice - text – web
- Variable Costs for Operators have become unacceptable.
  - SS7 dips, for instance

Sell your used Class 5 Switch on EBAY !!!



SIPconnect

The Evolution of Enterprise VoIP

- First : Replace the RJ-11
  - Immediate gains in CAPEX as single wiring harness simplifies campus management.
  - Greenfield ROI – NO Brainer
- Second : Replace the TIE Lines
  - Integrate Enterprise wide Dial Plan Management into single IP Network. Immediate OPEX gains.
- Third : Replace the PRI (Today) -- SIP Trunking
  - All IP E2E
- Fourth : Peer with Business Partners?
- Fifth : Seamless Campus/Mobility Integration?

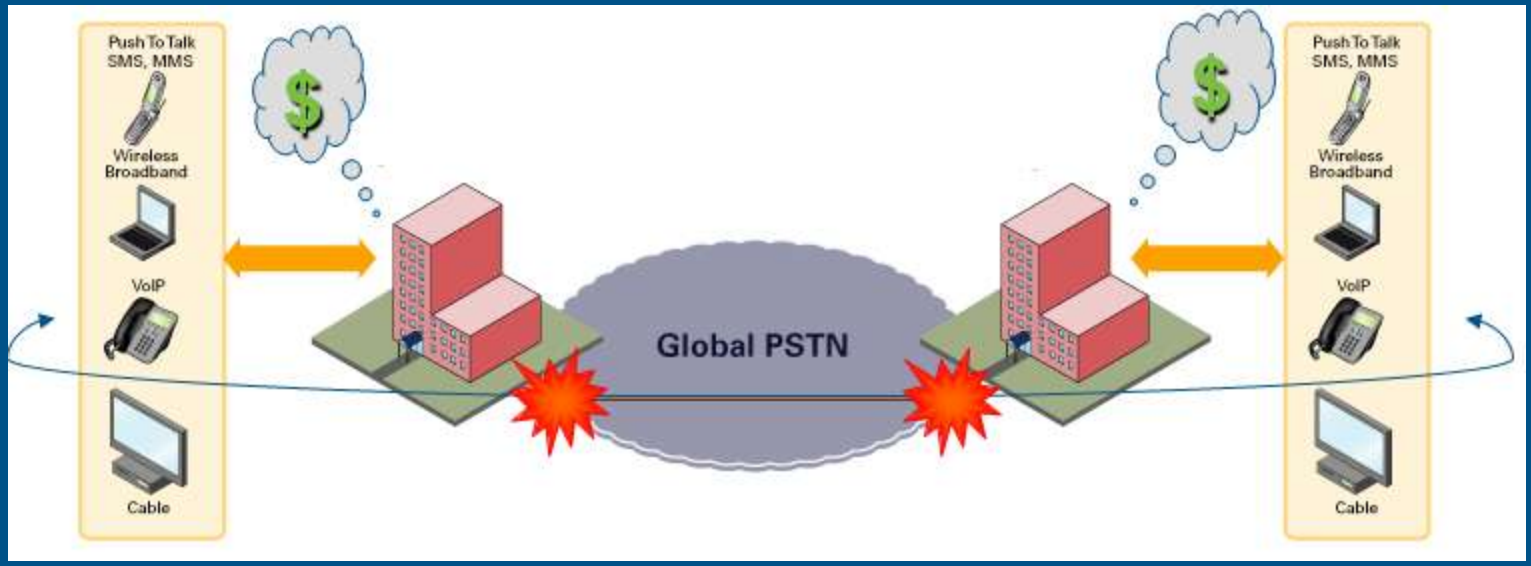
Growth of SIP Adoption

- 2009 FCC estimates were that 20% of all US carrier-delivered voice was running on a SIP-based infrastructure.
- With the introduction of VoLTE in mobile networks, SIP will quickly become the dominant protocol for real-time voice communications and eventually video.

Additional Key Statistics

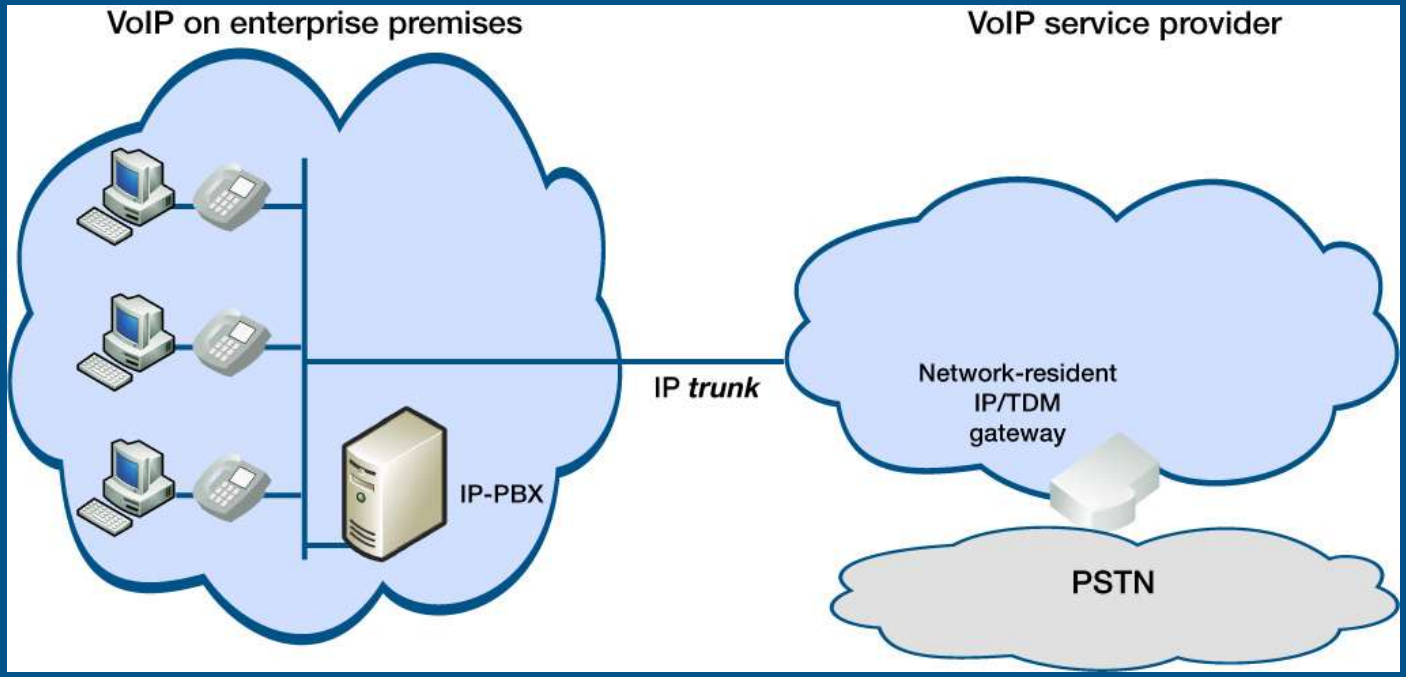
		Sources
Establishments (business sites) in the US, 2007	7.7 million	*US Census, 2011*
Under 20 employees	6.6 million	*US Census, 2011*
20 to 99 employees	892,000	*US Census, 2011*
100-499 employees	161,300	*US Census, 2011*
Over 500 employees	19,200	*US Census, 2011*
Business Lines in the US, 2007	45 million	*US Census, 2011*
PBX lines in the US, 2011	104.9 million	*TIA, 2010*
IP PBX lines in the US	80.3 million	*TIA, 2010*
TDM PBX lines in the US	24.6 million	*TIA, 2010*
% of installed base on TDM, 2012	<20%	*TIA, 2010*
SIP Trunk penetration, US, 2011	8%	*Wall Street estimates*
SIP endpoints in use, US, 2016	46 million	*Gartner, 2010*
Unified IPT/ IM/ presence clients in use, 2015	48 million	*Frost & Sullivan, 2010*
Average monthly cost per TDM business line	$48	*US Census, 2011*
Average monthly cost per VOIP business line	$35	*Current Analysis estimate*

The PSTN PRI's are the Bottle Neck to new Enterprise Communications services



- **The PSTN is used as the inter-VOIP "default" network**
  - Service is degraded as it must transverse multiple networks
- Every VOIP network is an Island (apologies to John Donne!)
- PSTN Primary Rate Interfaces are the last bottleneck.

The New Way



- Connecting IP PBXs directly to VoIP service providers provides significant advantages
  - More features, less cost
- But, how to do it?

Realizing The Promise of IP Communications

- Problem: IP-PBXs have successfully cut costs and delivered new features to customers, BUT…TDM Routing of VoIP Traffic is a Limited Approach to Achieving Next Generation Telephony
- Opportunity: Preserving and Extending Next-Generation IP Communications Capabilities Beyond the Enterprise
- Solution: Direct IP Peering, or Creating a Seamless, End-to-End Connection between SIP-enabled IP-PBXs and SIP-enabled VoIP Service Provider Networks

SIP Is Key, but SIP Alone is Not Enough

- SIP is the industry standard for VoIP, but…
  - There's a lot to SIP; but what parts are relevant for this?
    - e.g. How to handle addressing in the presence of multiple firewalls
  - When we have SIP options, what choices do we make?
    - e.g. Inter-domain authentication / registration policy
  - Some solution elements lie "above" SIP
    - e.g. OA&M (Operations/Admin/Management) around hierarchical logical identities
      - Users, customers, locations, DID blocks, …

What's Needed

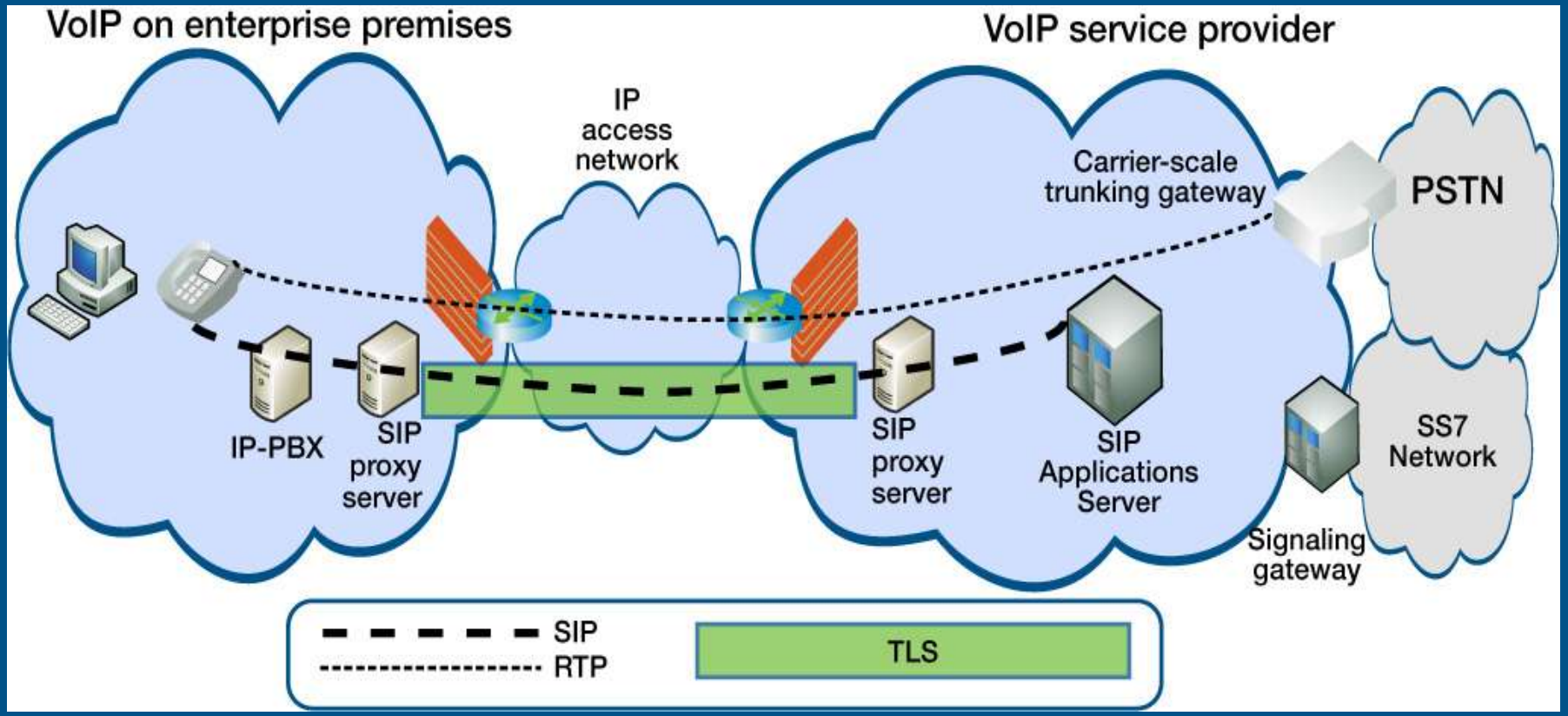
An industry accepted interconnection method that uses SIP to build links between SIP-enabled PBXs and SIP-compliant service provider networks

Enter SIPconnect

- SIPconnect specifies a reference architecture
  - Minimum set of IETF and ITU-T standards that must be supported
  - Provides precise implementation rules and guidelines where existing standards allow for multiple implementation options.
  - Specifies a minimum set of capabilities that should be supported by service provider and enterprise networks

SIPconnect Reference Architecture

Common Functional Elements Required to Support SIPconnect



The SIPconnect Value Proposition

- Offers a Universal Approach to SIP Trunking
- Delivers Customer Cost Savings
  - eliminates gateways and extends VoIP's benefits (DID, conferencing, etc.)
- Enables Transparent Feature Transport
  - end-user info can be passed from IP-PBX to network enabling presence and other apps to travel from point-to-point
- Optimizes Quality of Service
  - transport layer issues are defined – i.e., QoS configuration, echo cancellation, method for DTMF relay, packetization rates, codec support and fax/modem traffic
- Provides Security
  - well-defined approaches to identity and authentication provide a secure model for direct IP peering

Benefits for Service Providers

- Improved QoS and security via superior interconnection to the network
- Ability to offer higher quality services with advanced features tailored to IP PBX users
- Ability to forge strong relationships with IP PBX vendors
- Ability to establish new relationships with distribution channel: interconnects, system integrators and VARs.

Some Economics

- Cost Savings are real :
  - Network gateway costs reduced/eliminated
  - “Reduced reliance on premises gateways can save 40-60%”
- Additional Revenue Opportunities
  - Provide DN/DID services to smaller companies
  - Centralized management
  - Deliver services to individual end users
- Reduce Churn with services that complement the PBX
  - Provide Stickiness
  - Integrate voice as an application, among others

A Competitive Edge for IP PBX Manufacturers

- Why should IP PBX manufacturers care?
- Because direct IP peering is a huge value add for businesses and service providers alike – entities that purchase and interconnect with IP PBXs
  - Addresses QoS and security issues
  - Reduces equipment and transport costs
  - Increases features and functionality
  - Eliminates need to set up proprietary interfaces

Cost Savings and New Features for Business Customers

- Eliminates TDM gateways and increases efficiency of local access facilities
- Provides DID capabilities w/o requiring the recurring expense of analog lines or expensive digital circuits
- Improves voice quality by removing gateway latency and includes the attentive management of QoS, echo cancellation as well as fax and modem support
- Creates the right foundation for personalized applications and rich media services between customers and service providers as well as between customers and other IP-connected PBXs

Benefits for Distributors and Channel Partners

- Eliminates PSTN interconnection woes
  - No quality of service problems (i.e. latency and echo)
  - No need to perform custom configurations on a customer-by-customer basis
- Allows service providers to manage QoS
- Allows security-related functions to be “off-loaded” from customer premises to VoIP networks (incl. NAT traversal for seamless SIP connectivity) and other security concerns (i.e, denial of service attacks, etc.)

Conclusions

- SIP Trunking works ..
- It delivers the ROI it promises
- SIPconnect 1.1 Ratified March, 2011
  - http://www.sipforum.org/sipconnect

Join the SIP Forum! -- Get Involved!

- Visit the SIP Forum Website: www.sipforum.org
  - Register for participant membership – it's FREE!
  - Join the discussion list
  - Learn about SIP Forum events and initiatives
- Attend a SIPit interoperability event: www.sipit.net
- Attend SIPNOC: www.sipnoc.org
- Get Serious -- Participate in a Forum Task Group!
- Join the IP Communications Industry Thought Leadership!

THANK YOU!

SIPconnect

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