

Build on **Dialogic**

Today's Webinar:

Coming of Age: SIP Trunking for Secure Enterprise Deployments



Steve Johnson
President, Ingate Systems



Bud Walder
Marketing Manager, Dialogic

This webinar is a listen only audio broadcast.
Please feel free to pose any questions via
WebEx **chat** window, which will be answered in
the Q&A session at the end of the presentation.

Co-sponsored by:



The SIP Trunking Enabler

Dialogic At a Glance

- Dialogic is the most recognized name in the converged communications enabling industry and remains the market segment leader
- Founded in 1984
- Dialogic Today
 - Eicon Networks, Intel Media and Signaling, Cantata, Brooktrout, Excel Switching, Snowshore Networks, OpenMediaLabs, NMS Communications Platforms
- Global experience and presence
 - Over 60 million ports shipped globally
 - Deployed in 90% of Fortune 2000
 - Over 8,500 systems deployed in over 300 carriers in over 80 countries
- Strong financial backing
- Our partnerships are important to us



Can you find the Dialogic in that?

You may not be able to see us, but we're there. With the signaling and media technologies that pump out many of today's most popular telecom services. In nearly every service network around the globe. Inside a lot of the equipment built by leading manufacturers. In fact, Dialogic is just about everywhere. Reliable, innovative, cost-effective, scalable. Delivering the technologies that make it easier for you to bring out new telecom networks and services. Find the Dialogic in that.

- CMBT
- MOBILE VIDEO
- SMS
- SERVICE DELIVERY PLATFORM
- MOBILE PREPAID

Build on Dialogic

To find out more about Dialogic, call 800.353.4444 or visit us at www.dialogic.com/gst/india

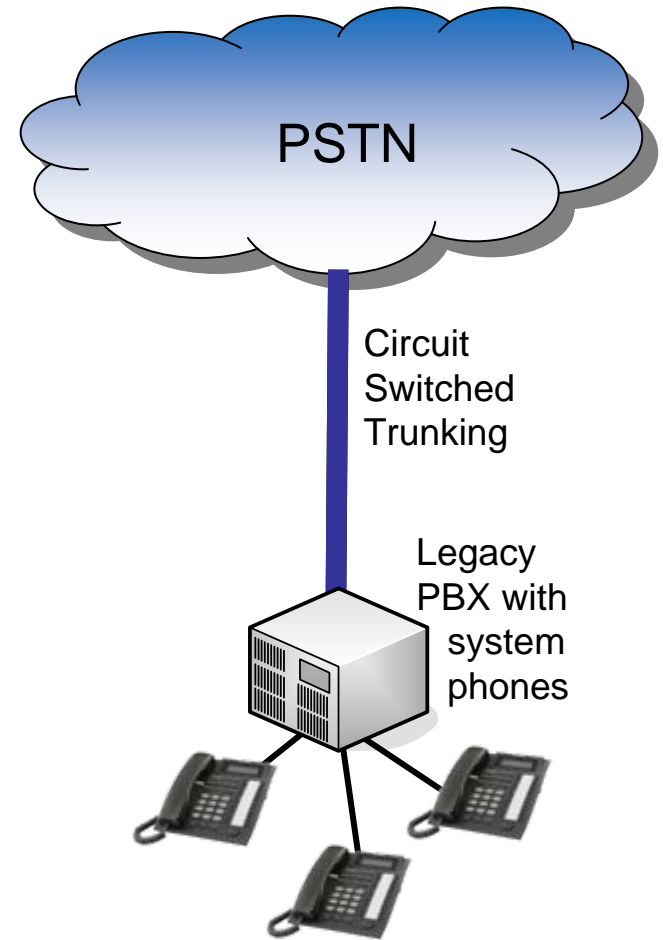
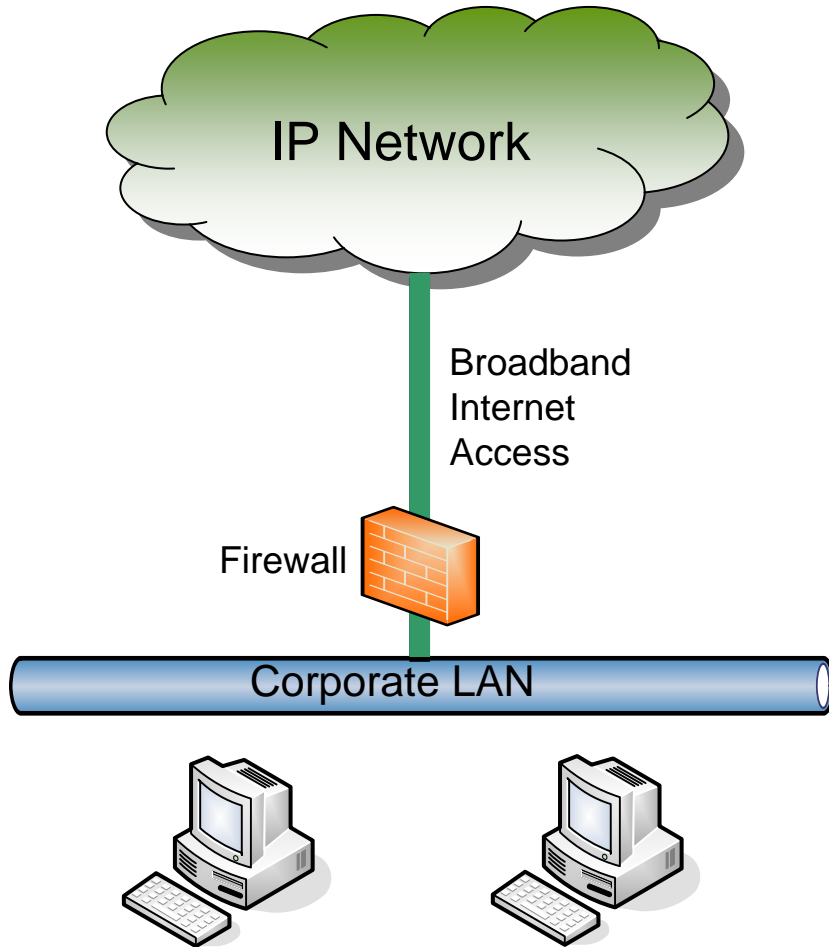
Dialogic

Ingate at a Glance

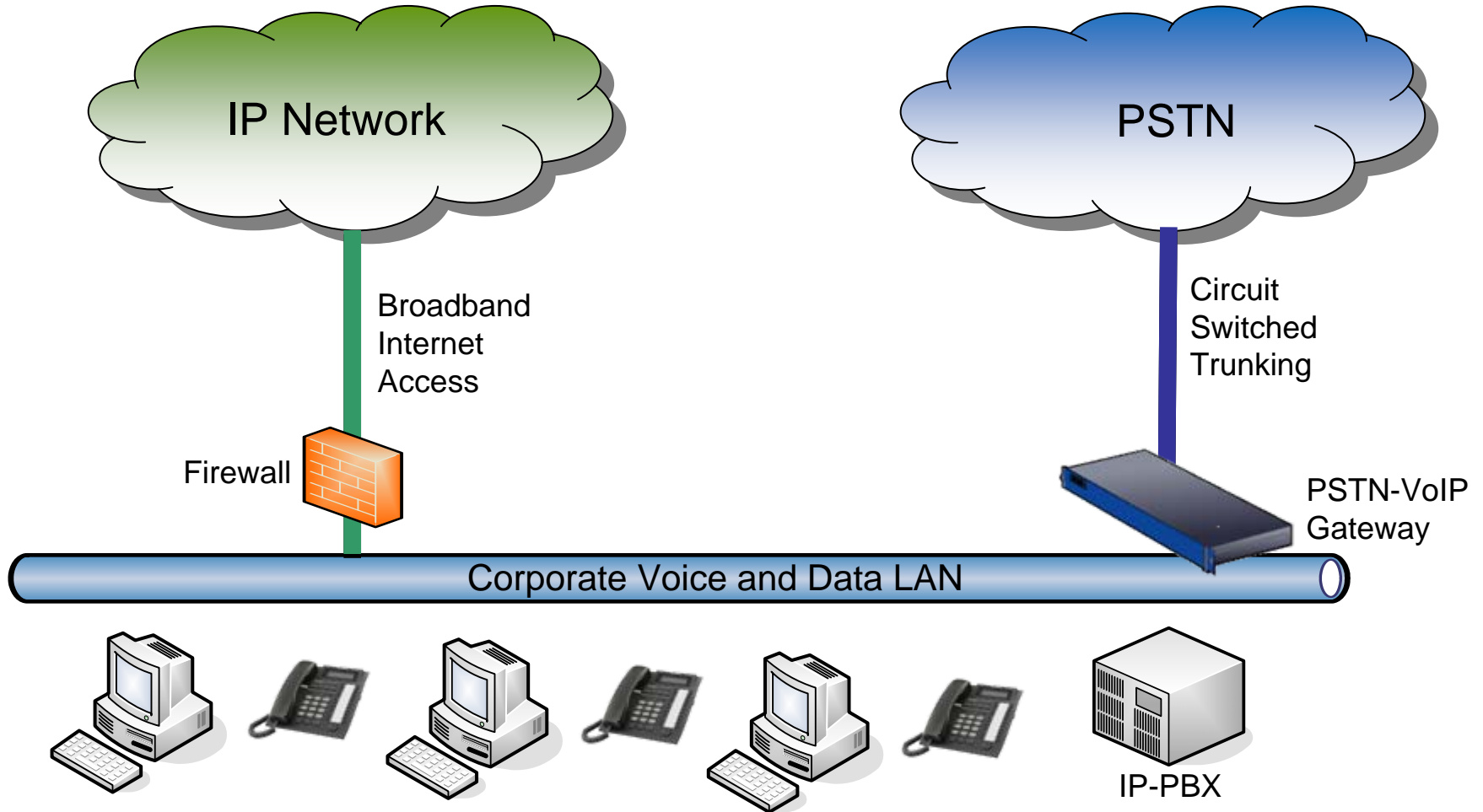
- Formed in 2001 to enable enterprise adoption of SIP
- First commercially viable Enterprise Session Border Controller in 2001
- Sponsor of the SIP Trunking Seminar series at ITExpo since 2006
- First ICSA certified SIP security device
- Headquartered in Sweden
- Sales and support presence in North America since 2001



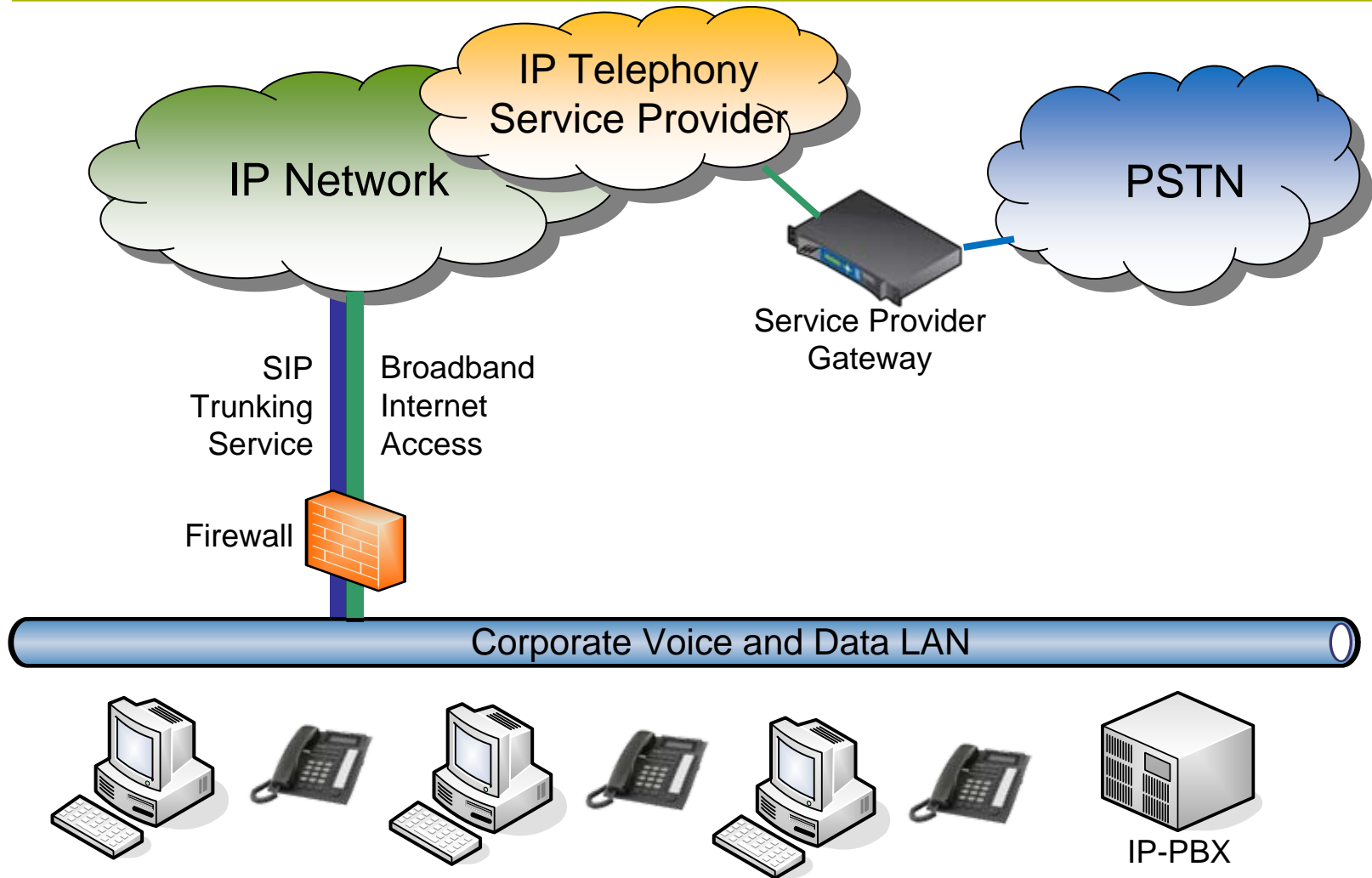
What is SIP Trunking?



What is SIP Trunking?



What is SIP Trunking?



Advantages of SIP Trunking

- Cost
 - Use only as many call paths as you need
 - You can purchase call paths one at a time vs. 23 PRI channels
 - Efficient use of bandwidth by combining the voice and data networks
- Scalability
 - Add call paths as needed, one at a time
- Next-day provisioning
 - No truck-rolls = faster turn up
- Manageability
 - No PSTN gateway on site



SIP Trunking and Beyond

- Connecting remote users to the PBX and SIP Trunks
- Secure interoffice connection
- WiFi mobile phone communication
- Multimedia Communications
- Unified Communications



SIP Trunking Opportunity

The north American VoIP trunking forecast.....

channel 250,000 + 2000 +

about

.....C

2006 to

(a CAG

Source:

For 2008, VoIP Business VoIP output

“SIP trunking will grow at 89 percent cumulative average growth rate between now and 2013”

Source: Diane Myers, Infonetics, Directing Analyst
May 8, 2009

The Live IP Communication Challenge

**A common Network and common Protocols changed our lives:
SMTP gave us global email! HTTP gave us the WEB!**

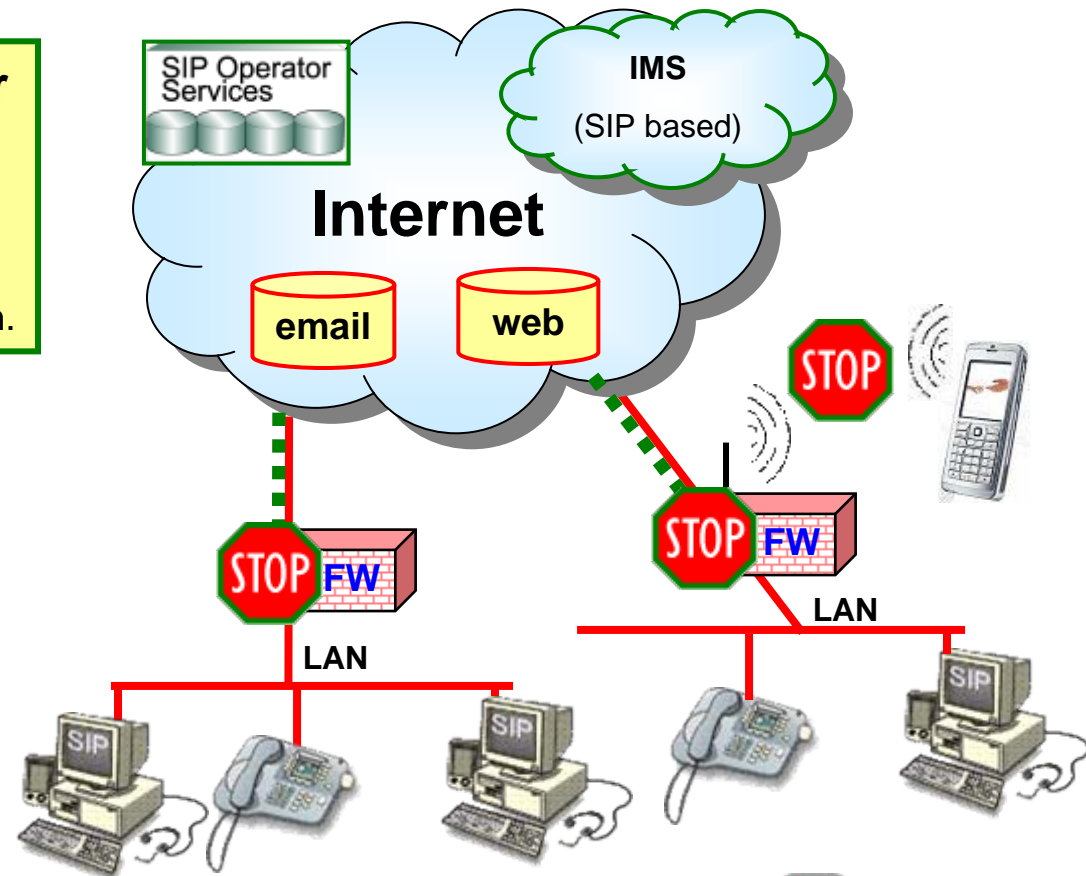
SIP is the Internet standard for Live IP Communication: The next step of Internet usage!

Find each other and do something in real time - telephony being just one application.

However, SIP does not traverse the common NATs and firewalls* separating the LANs from the Internet ☹.

*** Live IP Communication Requires:**

- Locate the person
- Set up a session
- Open real time media streams



The SIP Interoperability Challenge



- The SIP standard leaves substantial room for interpretation and implementation choices. This leads to variance between the entities that create SIP solutions, both equipment vendors and service providers. SIP interoperability is only assured through compliance testing.



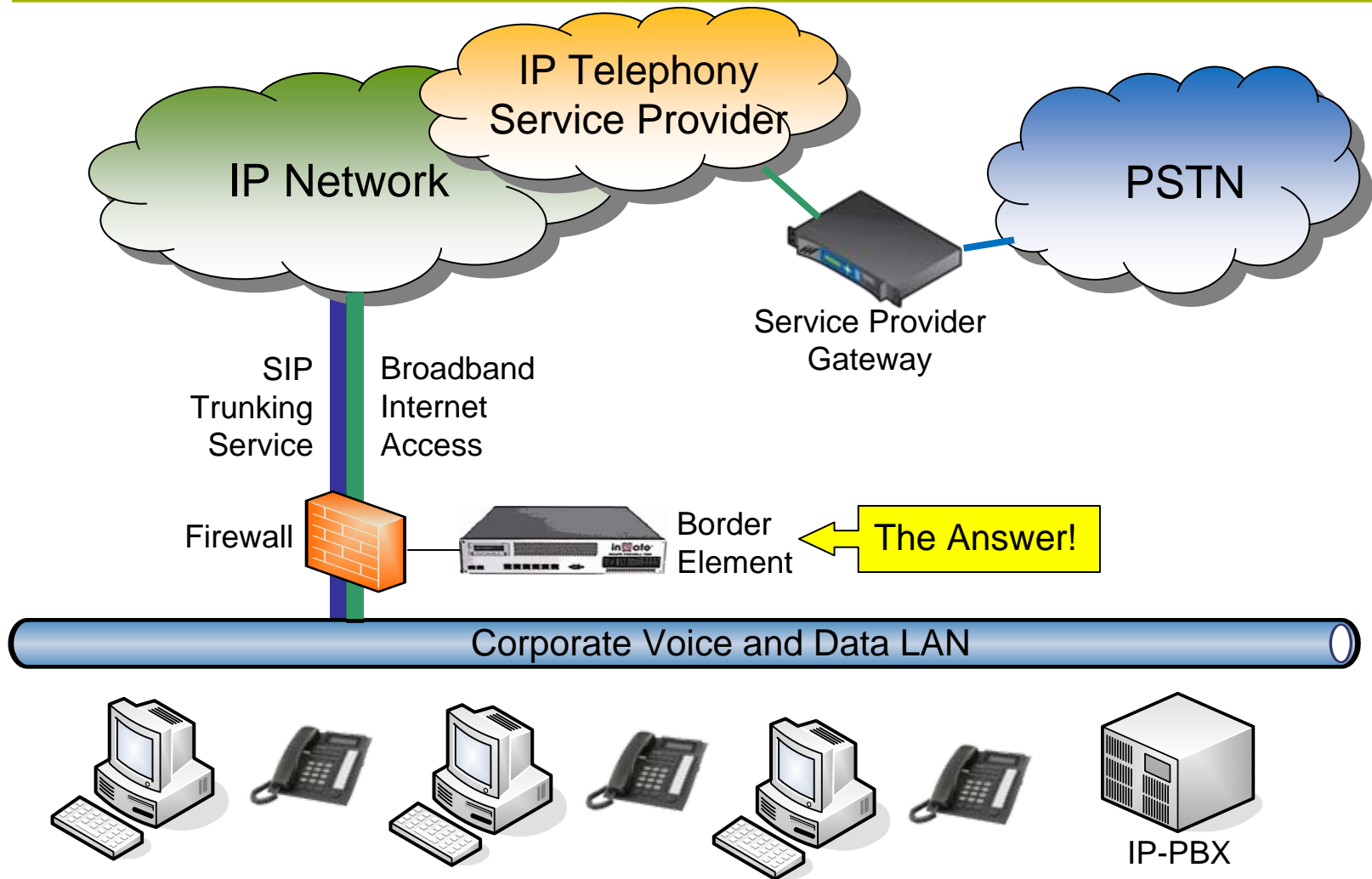
- "Interoperability is a challenge facing SIP trunking. There are organizations such as the SIP Forum looking to solve such problems, but at the end of the day, realized end-to-end solutions for customers with multiple vendor and service provider solutions will continue to be an obstacle."

Rebecca Swensen, research analyst for IDC covering Enterprise Mobility and IP Communications Services.

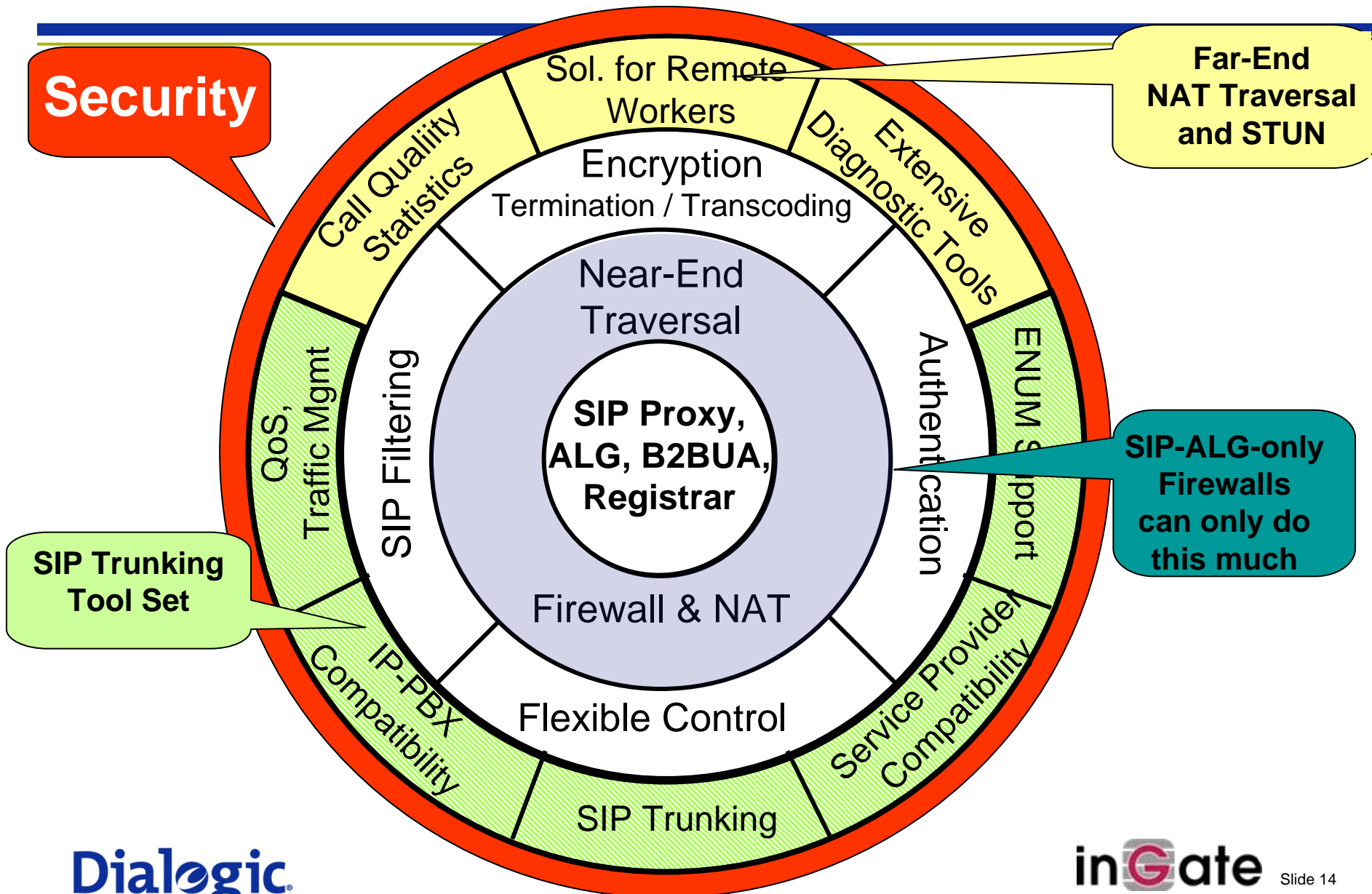
How to fix IP / SIP Communication Challenges

- 1) NAT/Firewall Traversal – Must NAT to same address space!
- 2) Basic SIP and Network Interoperability - E.g., Authentication, Registrations, UDP/TLS/TCP, Dynamic IP address, etc.
- 3) SIP Repair - E.g., Call Transfer, Fragmented packets, Bugs, etc.
- 4) Features - E.g., Remote Users, Administration (remote and local)
- 5) Security - E.g., Will LAN be opened? Is the PBX designed to be public?

Interoperable and Secure SIP Trunking



Extensive SIP Feature Set



Ingate Interoperability

Service Providers

- 360 Networks
- Airespring
- AT&T
- BandTel
- Bandwidth.com
- Broadvox
- Cbeyond
- Cellip
- Cordia Corporation
- Gamma
- Global Crossing
- IP-Only
- Juma Networks
- Level 3
- Netlogic
- Nexvortex
- Nuvox
- O1
- Paetec
- Primus
- RNK Telecom
- TDC
- Tele2
- Toplink
- VoEX
- VoIP Unlimited
- Voxbone
- More in pipeline.....*

Carrier Equipment

- Acme Packet
- Broadsoft
- NexPoint
- Sonus
- Sylanro

Ingate SIParator®
-Or-
Ingate Firewall®



Compliant with

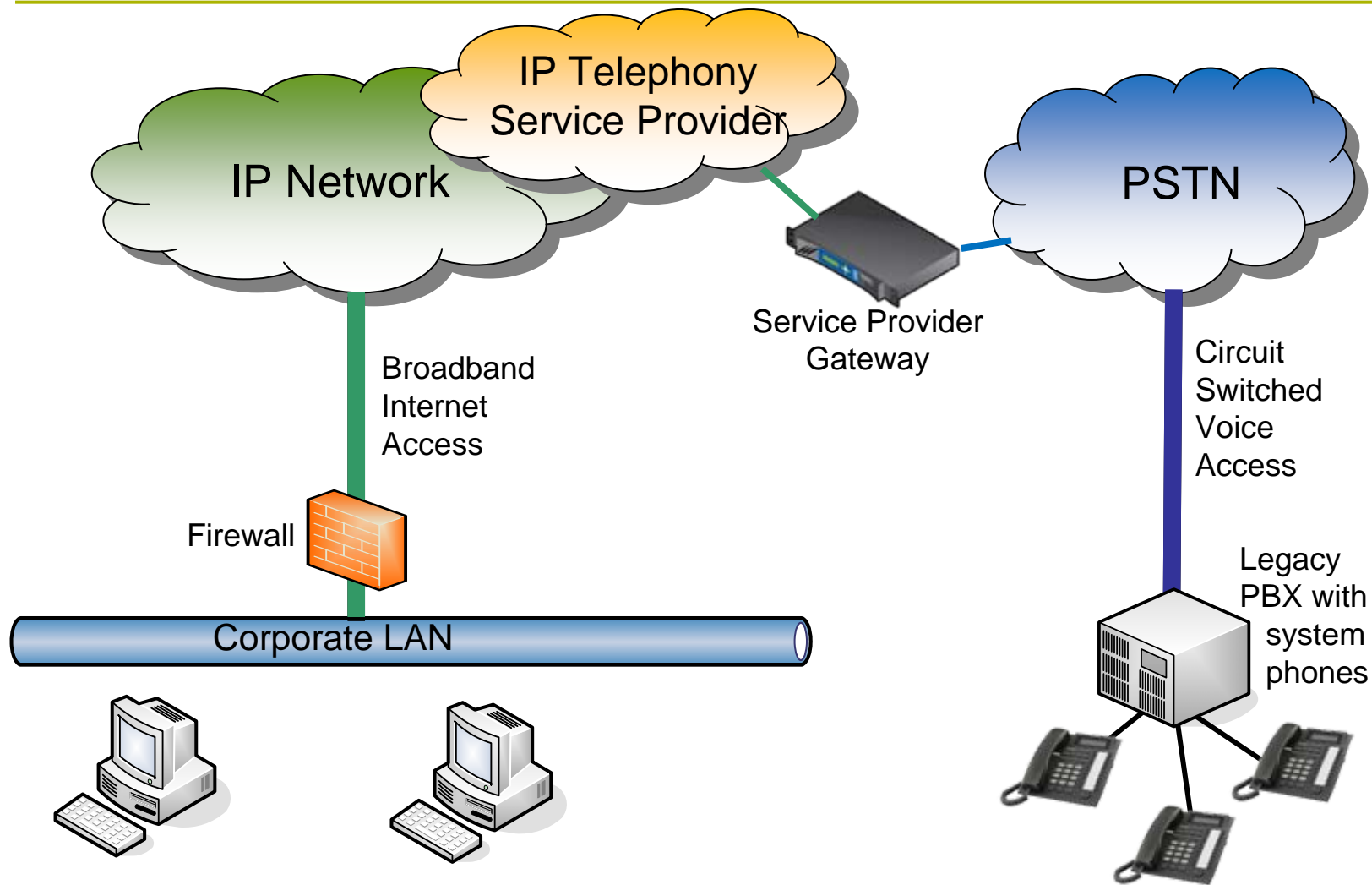


See: www.siptrunk.org

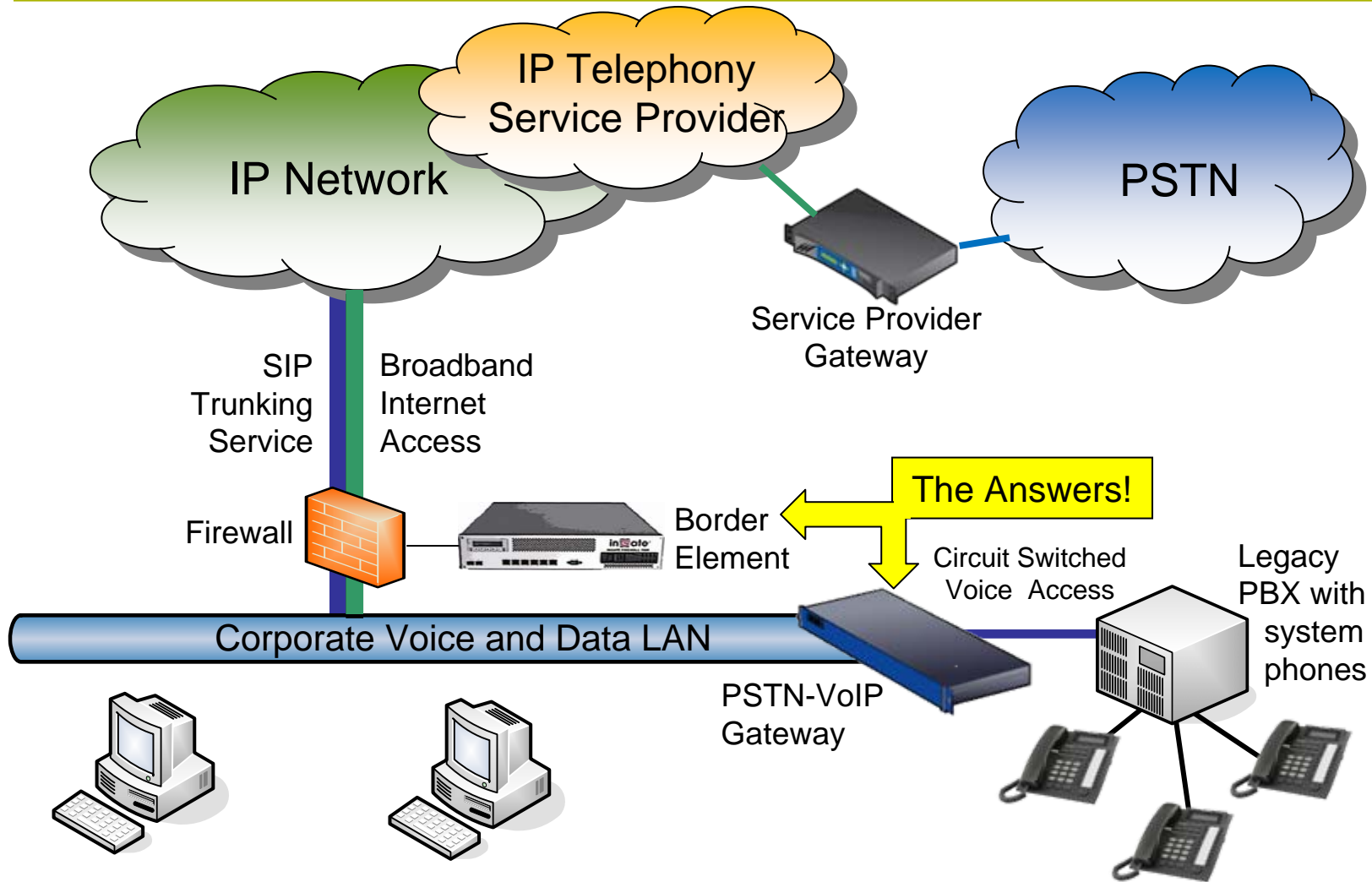
IP-PBXs

- 3Com
- Aastra
- Digium / Asterisk
- Avaya
- Cisco Call Manager
- Ericsson MX-One
- Fonality
- Innovaphone
- Interactive Intelligence
- Iwatsu
- Microsoft
- Mitel
- NEC / Sphere
- Nortel
- Objectworld
- SER
- Shoretel
- Siemens
- SIP-Gear
- Swyx
- More in pipeline....*

What about the Legacy PBX and Contact Center?



SIP Trunking for Legacy PBX and Contact Centers



Ingate – Dialogic Interoperability

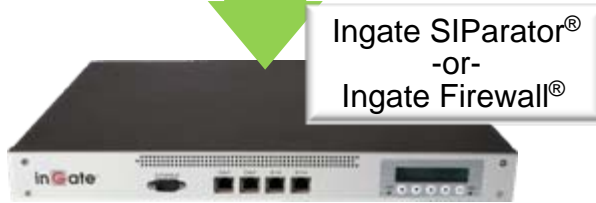
Service Providers

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 - Voxbone
- More in pipeline.....*

Carrier Equipment

- Acme Packet
- Broadsoft
- NexPoint
- Sonus
- Sylanro

SIP Trunks



SIP
Interop



'PSTN' Trunk
Emulation

Legacy PBXs

- Alcatel
 - Avaya
 - Ericsson
 - Mitel
 - Nortel
 - Siemens
 - Fujitsu
 - Hitachi
 - Intecom
 - Matra
 - Philips
 - Rolm
 - Tenovis
 - Toshiba
 - Iwatsu
 - Intertel
 - Panasonic
 - DeTeWe
 - Samsung
- If it supports a T1 or E1 trunk port today, chances are good we can emulate the PSTN for it.....*

Advantages of SIP Trunking w/ a Legacy PBX

- Cost
 - Use only as many call paths as you need
 - You can purchase call paths one at a time vs. 23 PRI channels
 - Efficient use of bandwidth by combining the voice and data networks
- Scalability
 - Add call paths as needed, one at a time
- Next-day provisioning
 - No truck-rolls = faster turn up
- ~~Manageability~~
 - ~~No PSTN gateway on site~~
- Adopt SIP Trunks without a PBX or Contact Center forklift
 - Minimal Disruption
 - Transparent to End Users



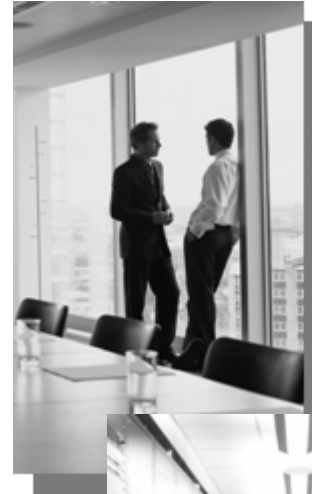
What does the ROI Look Like? Example....

■ Situation:

- Enterprise Business Site / Approx 200 People / Legacy PBX
- Current PSTN Domestic Long Distance / \$0.06 / Minute
- Average Monthly Usage: 80,000 Minutes / Month
- Goal: Reduce Costs via SIP Trunks
- Hurdle: Not Ready to Replace Legacy PBX
- Key Requirements: Security, Interoperability / Minimal Disruption

■ Solution:

- Replace 2 T1 PRI Circuits w/ 46 SIP Trunk Channels
 - Supports Equivalent Traffic Load
- Leverage existing 45MB / DS3 broadband internet service connection
 - 46 SIP Trunk Channels / ~ 4MB Broadband @ G.711 / 2.5MB @ G.729
- Reduce Service Cost w/ SIP Trunk Domestic Long Distance
 - ITSP Proposal w/ Cost per Minute ~ \$0.02
- Secure Network Edge and Ensure ITSP Interoperability
 - Ingate SIParator® 50
- Minimize Disruption by SIP to PSTN Trunk Emulation
 - Dialogic® 2000 Media Gateway Series (DMG2060DTIS)



SIP Trunking for Legacy PBX ROI Pro Forma Example

- Solution:
 - Replace 2 T1 PRI Circuits w/ 46 SIP Trunk Channels
 - Leverage existing 45MB / DS3 broadband internet service connection
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 - Secure Network Edge and Ensure ITSP Interoperability
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Existing PSTN Service

Item	Qty	Unit Cost	Total
Capital Cost (list price)			
Total Capital Cost			\$0

Monthly Operating Costs

PRI Connection	2	\$1,000	\$2,000
LD Charges	80,000	\$0.06	\$4,800
Total Monthly Operating Costs			\$6,800

SIP Trunk Option

Item	Qty	Unit Cost	Total
Capital Cost (list price)			
Dialogic DMG2060DTIS	1	\$5,810	\$5,810
Ingate SIParator 50	1	\$6,190	\$6,190
Install and Config Estimate	4 hours	\$200	\$800
Total Capital Cost			\$12,800

Monthly Operating Costs

SIP Trunk Charges	46	\$20	\$920
LD Charges	80,000	\$0.02	\$1,600
Total Monthly Operating Costs			\$2,520

Payback Period ~3 months and ROI (first year) ~300% (\$38,560)

Enabling Enterprise Class SIP Trunking: Ingate SIParator[®] and a Dialogic[®] Media Gateway

Why an Ingate SIParator is used to facilitate SIP Trunking:

- 1) NAT/Firewall Traversal – Must NAT to same address space!
- 2) Basic SIP and Network Interoperability - E.g., Authentication, Registrations, UDP/TLS/TCP, Dynamic IP address, etc.
- 3) SIP Repair - E.g., Call Transfer, Fragmented packets, Bugs, etc.
- 4) Features - E.g., Remote Users, Administration (remote and local)
- 5) Security - E.g., Will LAN be opened? Is the PBX designed to be public?



Why a Dialogic Media Gateway is used to connect a PBX to SIP Trunking:

- a) Most Legacy PBX and Contact Center Systems do not support SIP / VoIP natively.
- b) VoIP to TDM Conversion – translate packet VoIP streams to traditional TDM circuit switched voice channels
- c) SIP to TDM Protocol Conversion – translate SIP signaling into any Primary Rate ISDN signaling (T1 or E1), including DNI
- d) Emulate PSTN Trunk Service – provide physical connections to legacy PSTN trunk ports on the PBX or Contact Center System
- e) Dial Plan Modification - append or strip digits as needed to normalize routing between the SIP Trunk service and PBX



Why Dialogic® Media Gateway Series.....



Interoperability with Ingate SIParator® and Firewall®

- Extends Interoperability to ITSPs and Networks
- Configuration Guides and Support

Ease of Use

- Dialogic Media Gateways are designed for plug-and-play installation.
- Extensive testing has been completed by Dialogic and our partners

PSTN Protocol Support

- Dialogic media gateways support a wide variety of PSTN protocols for T1/E1 connectivity, including NI2, 5ESS, DMS100, QSIG, EuroISDN, and T-1 CAS.

PBX Interoperability (Over 100 PBX's in our lab)

- Dialogic media gateways support integration to leading PBXs in the global market, including, Avaya, Nortel, Cisco, Siemens, Mitel, NEC, Alcatel, Ericsson, Fujitsu, Toshiba, and 3Com

Reliability

- Designed for trouble-free performance and backed by the Dialogic worldwide service organization

Field Proven

- Dialogic media gateways are deployed by leading enterprise solution providers worldwide
 - Microsoft, IBM, Motorola, RIM Blackberry, Mitel, Cisco, Siemens

Enterprise Class Media Gateways

Dialogic® 2000 Media Gateway Series

- Product Overview
 - Connects VoIP- and FoIP-based applications and services to legacy PBX infrastructure with application feature support
 - Designed and tested against wide range of PBX infrastructure
 - Designed for ease of deployment and operation
- Product Specification
 - 1U Rack Mount Appliance (~19"x14")
 - Software Selectable T1/E1 Interfaces
 - Single, Dual, Quad Density SKUs
 - NI2, T1 CAS, T1 and E1 Q.SIG
 - 5ESS, DMS100 and Euro ISDN
- VoIP Protocol Support
 - SIP (RFC 3261), T.38 Fax over IP
 - G.711, G.729AB, G.723.1, G.168 Echo Cancellation
 - Serial Protocols: SMDI, MCI, MD-110
 - Security: TLS, sRTP, HTTPs
 - Web Configuration Interface
 - SIP-to-TDM, SIP-to-SIP and TDM-to-TDM routing



Dialogic® 2000 Media Gateway Series

- DMG2030DTI
- DMG2060DTIS
- DMG2120DTIS

The Ingate Family: Enterprise Scalability

**Firewall 2950
&
SIParator 95**

Ingate SIParator® and Ingate Firewall®

Possible to SW upgrade

**Firewall 1650
&
SIParator 65**

1 800 Calls*
4 500 Mbit/s
400 000 Packets/s



650 Calls*
385 Mbit/s
125 000 Packets/s

**Firewall 1550
&
SIParator 55**



300 Calls*
380 Mbit/s
75000 Packets/s

**Firewall 1500
&
SIParator 50**



150 Calls*
330 Mbit/s
28500 Packets/s

**Firewall 1190
&
SIParator 19**



50 Calls*
50 Mbit/s
4500 Packets/s



*) Calls = Concurrent RTP Sessions = SIP Trunks

Summary

89% Growth!



inGate + Dialogic



- SIP Trunking demand is accelerating and moving upstream from SMB to the Enterprise
- Ingate SIParator® and Ingate Firewall® products provide a secure, scalable and interoperable enterprise edge for SIP Trunking Services
- Dialogic provides enterprise class media gateways to enable SIP trunking for legacy PBX and contact centers
- Ingate and Dialogic provide interoperable products that enable a rapid return on investment from SIP Trunking deployments
- SIP Trunk adoption moves an enterprise towards richer multi-media and unified communications services across public IP networks

Thank you for joining! Questions?

- Please Use the Chat Function to Ask Questions.

- For more information visit:
 - www.ingate.com
 - www.dialogic.com/uc/ingate.htm.....or contact us directly
 - steve@ingate.com
 - bud.walder@dialogic.com

- Join Us at [IT Expo West!](#)
 - September 1-3, 2009 Los Angeles Convention Center!
 - “[SIP Trunking](#): Everything You Need to Know”
 - Sponsored by Ingate
 - Including New Sessions:
 - “SIP Trunking for Legacy PBX and Contact Centers”
 - » Sponsored by Dialogic





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06/09