

Build on
Dialogic

Business Strategy:

**Secure SIP Trunking in
Legacy PSTN/PBX
Environments**

Steve Johnson
President, Ingate Systems

Vince Connors
Product Line Manager,
Dialogic



The SIP Trunking Enabler

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



Dialogic at a Glance

Mission: To Enable Secure Multimedia Communications Through Any Network To And From Any Endpoint In The World

- Privately-held corporation
 - Headquartered in Montreal, Quebec with over 700 employees, including ~37% in R&D functions
 - 14 major offices and 27 additional sales locations globally
- Industry leader in communications enabling technology solutions
 - Dialogic is the most recognized name in the converged communications enabling industry and remains the market segment leader
 - Deployed in over 80% of Fortune 2,000 companies and in the vast majority of service provider networks in over 80 countries

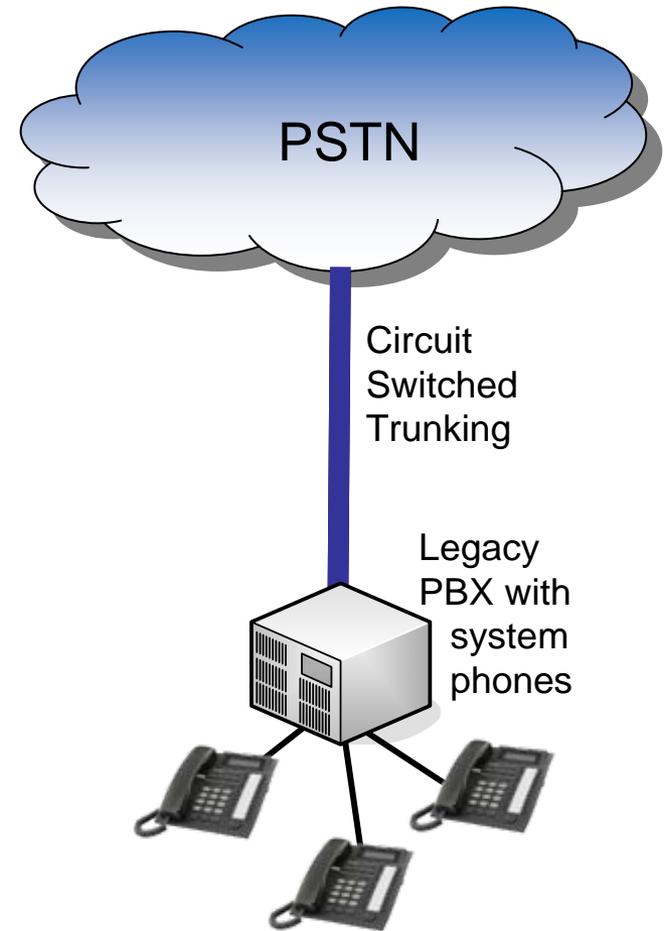
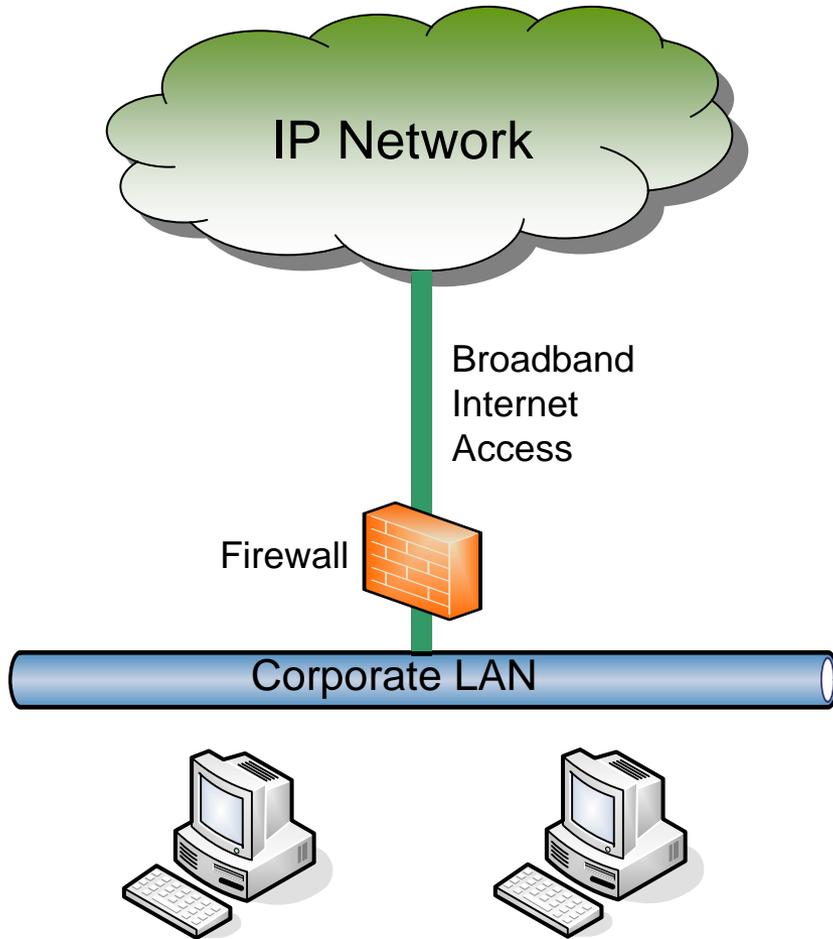
Company Highlights

- Founded in 1984
- Numerous Industry Firsts in Mobile Video and VoIP
- 76 Unique Registered Patents and over 60 Pending Patents
- Over 70 Million Ports Shipped

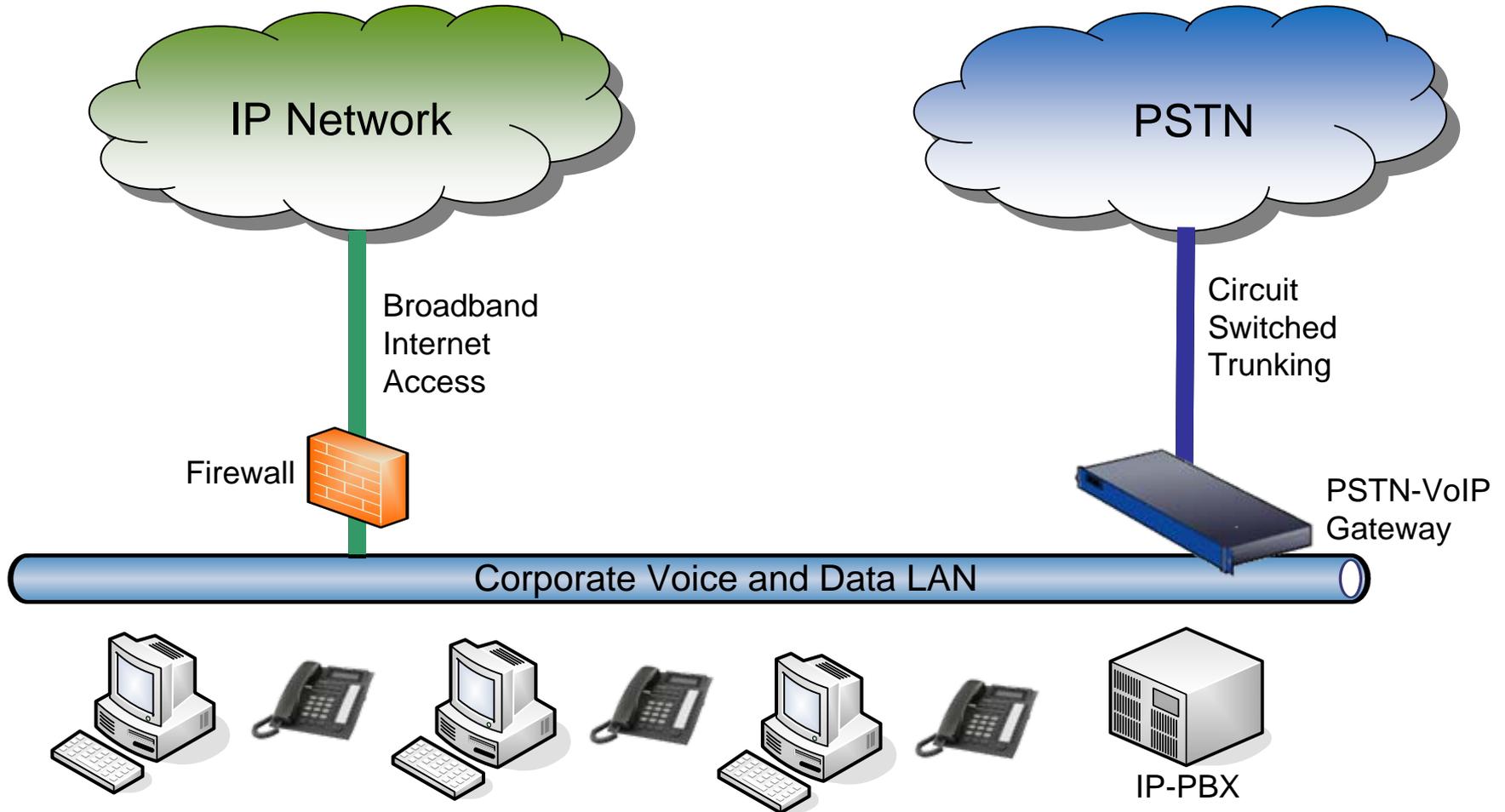
Leading Enabling Technology Solutions



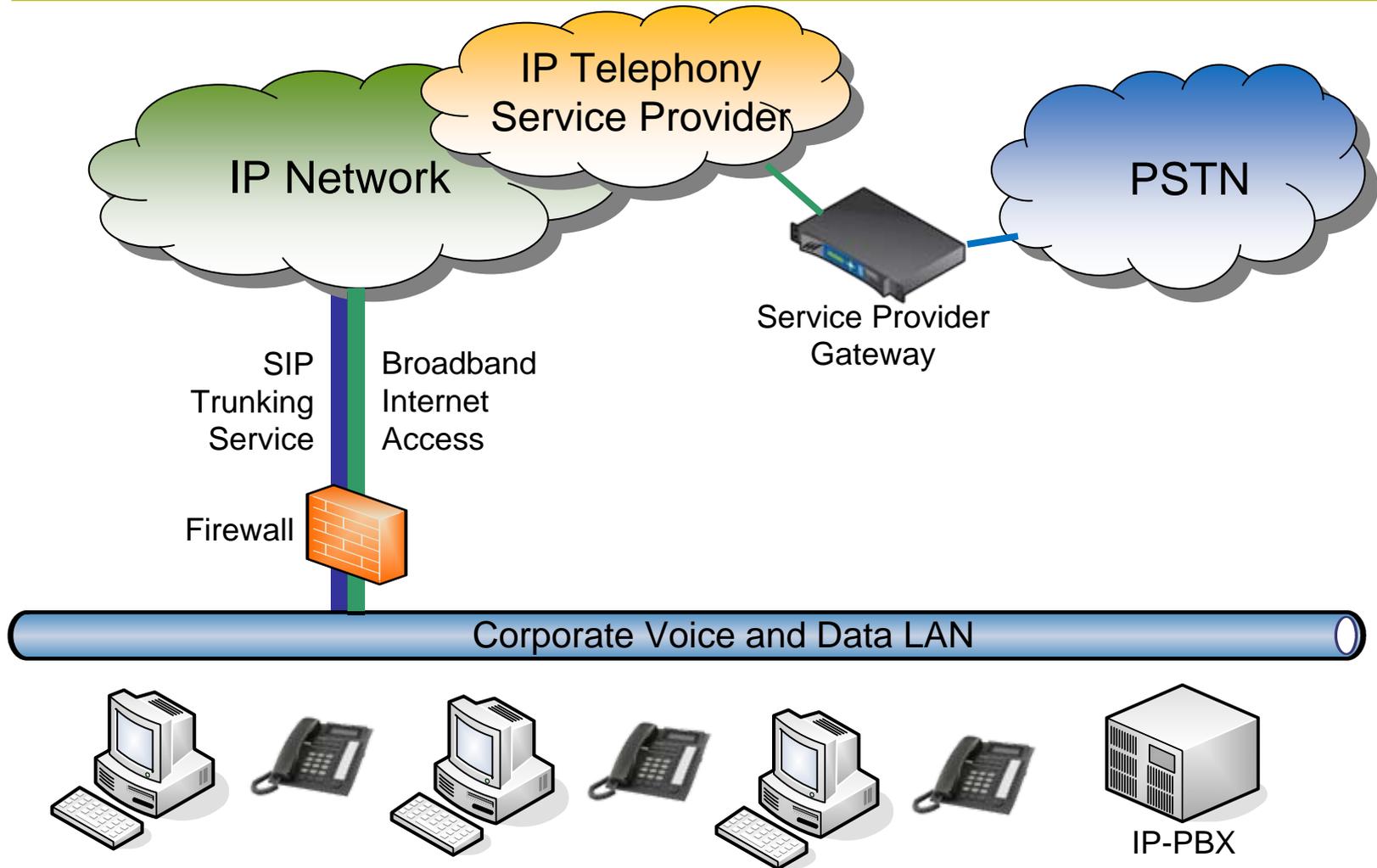
What is SIP Trunking?



What is SIP Trunking?



What is SIP Trunking?



Benefits 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

.....Co

2006 to

(a CAG

Source:

For 2008, VoIP Business VoIP output

\$30.8 billion

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!**

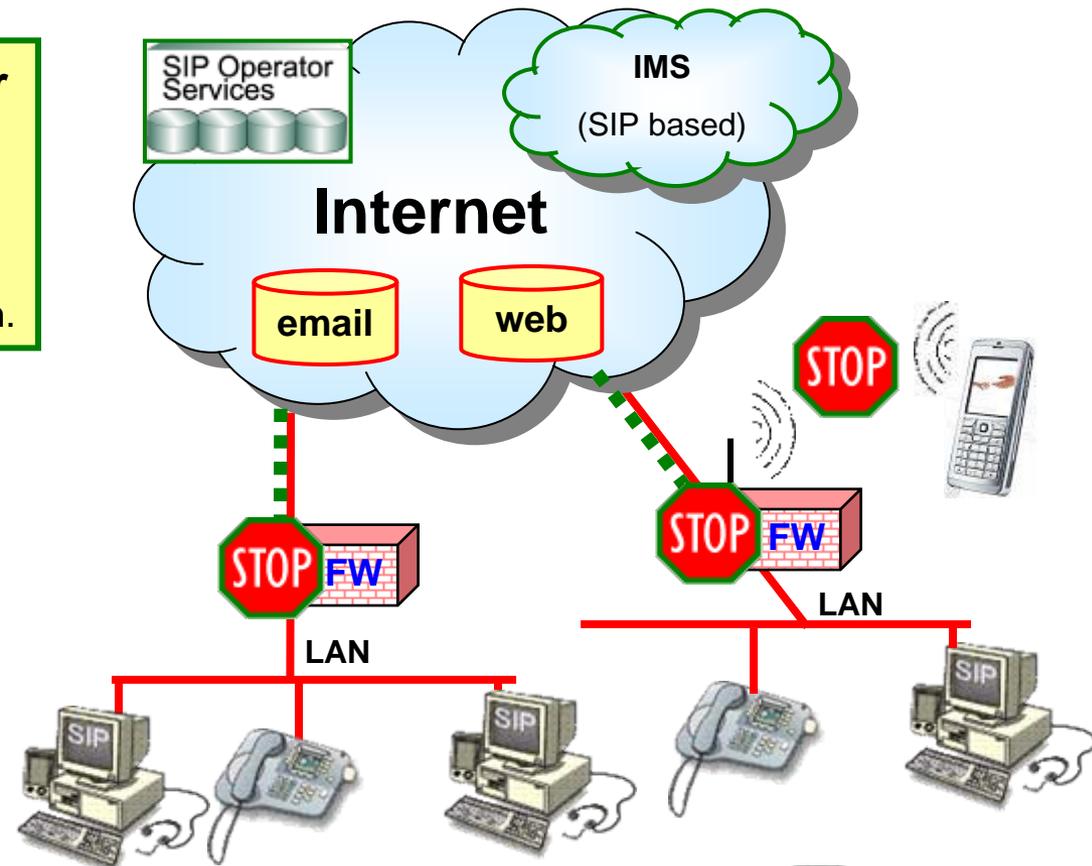
SIP is the Internet standard for Live IP Communication: The next step of Internet usage!

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.



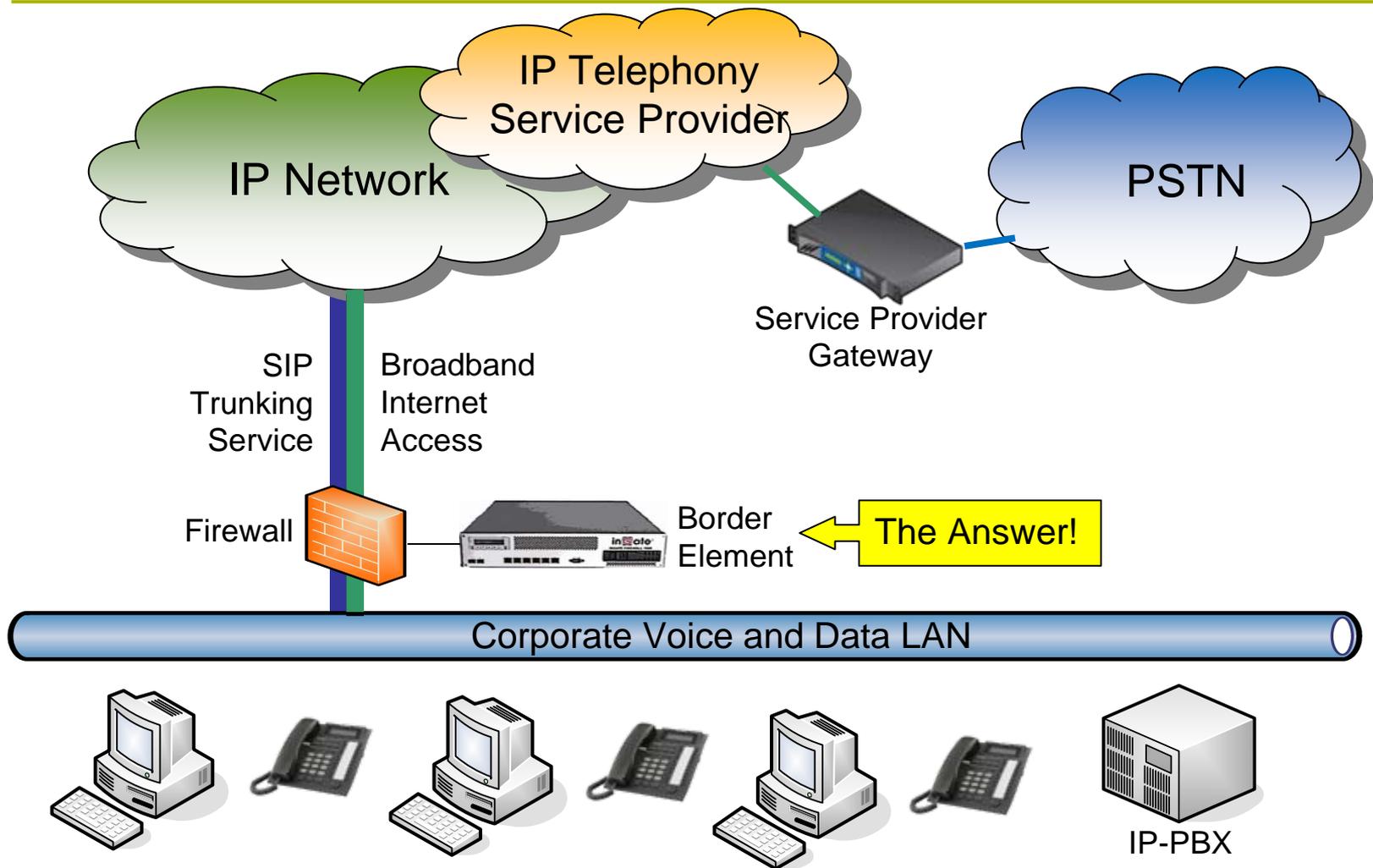
- "Interoperability is a challenge facing SIP trunking. There are organizations such as the SIP Forum looking to solve such problems, but at the end of the day, realized end-to-end solutions for customers with multiple vendor and service provider solutions will continue to be an obstacle."

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

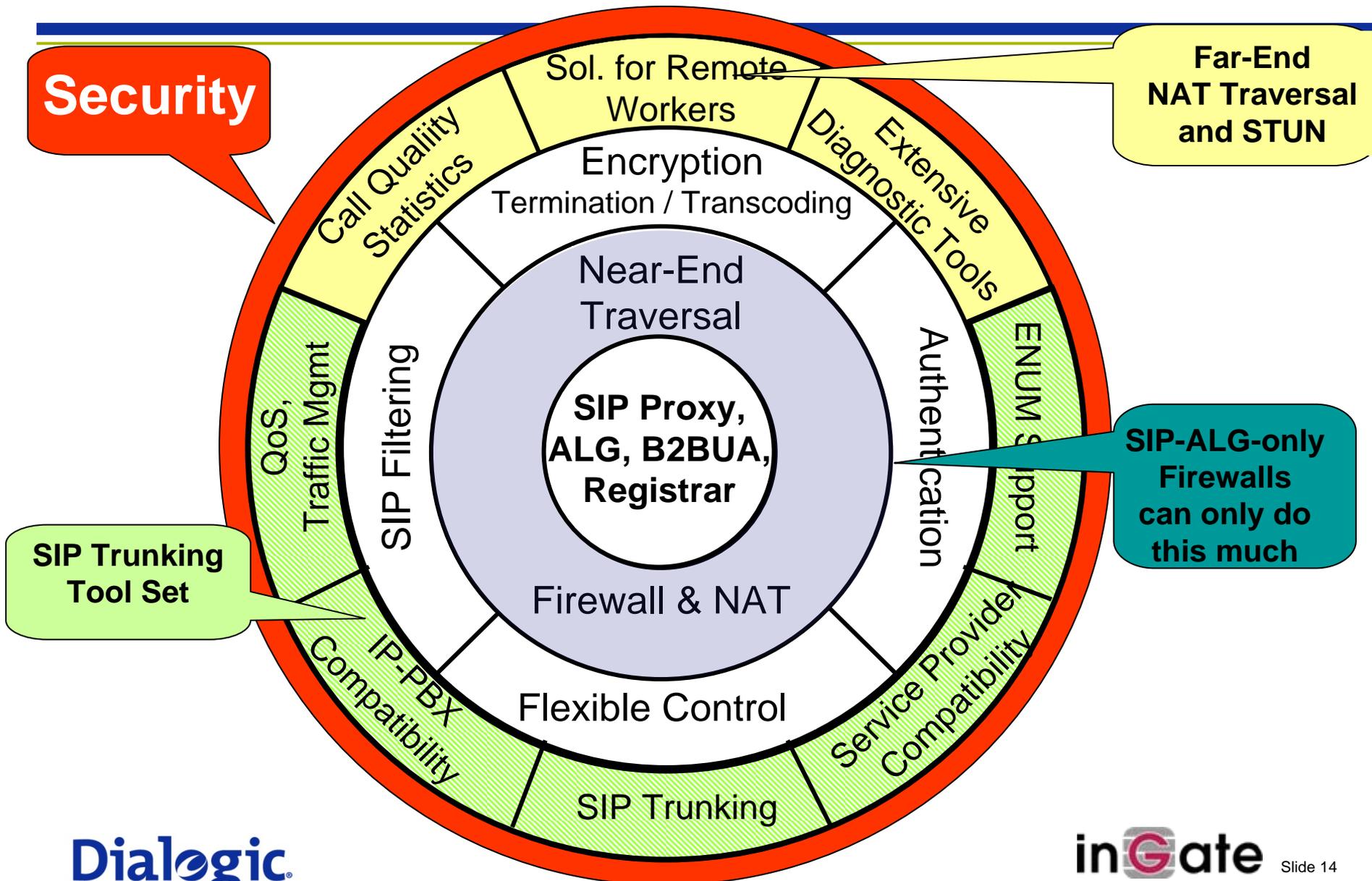
How to Address IP / SIP Communication Challenges

- 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

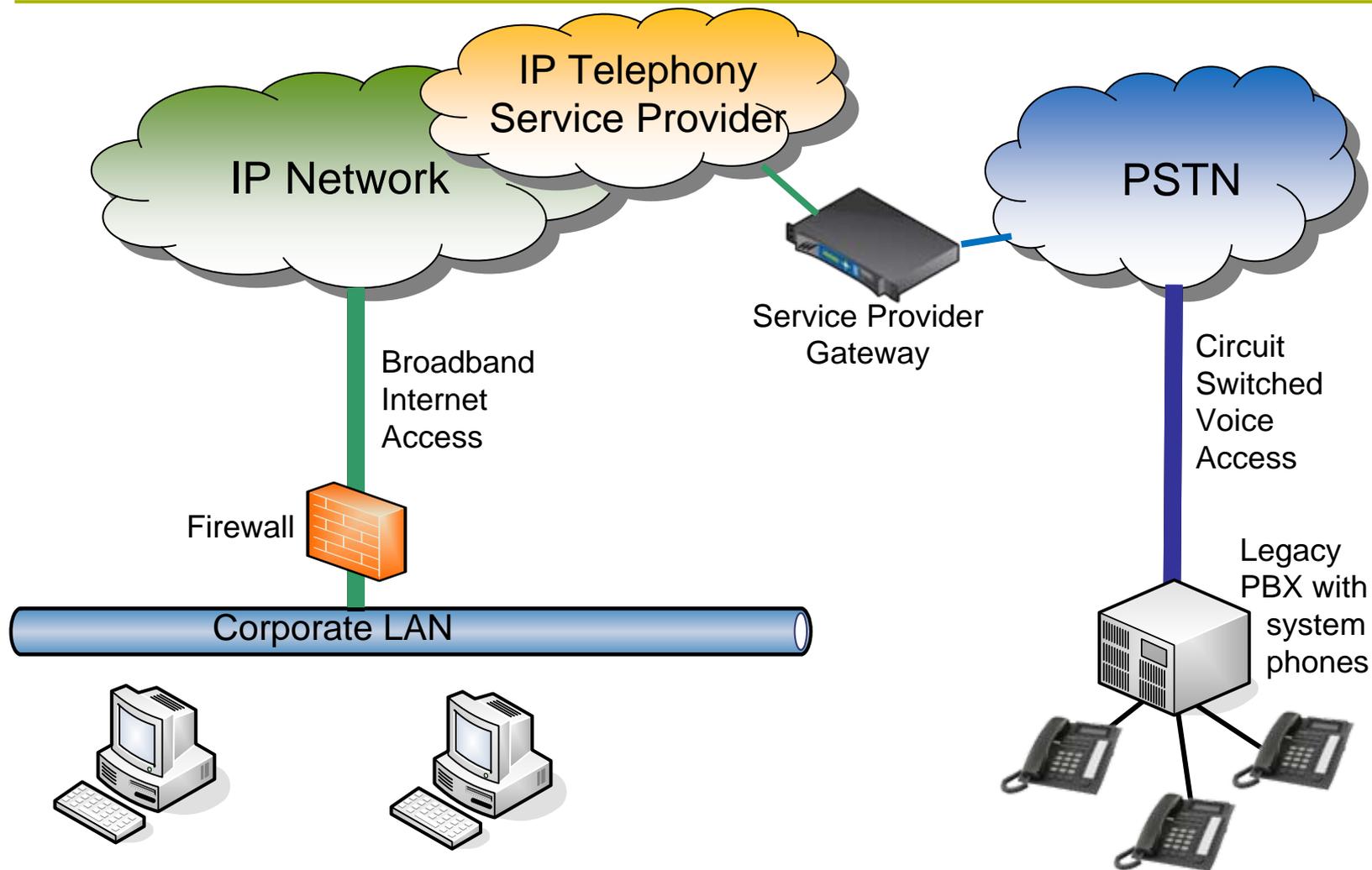


See: www.siptrunk.org

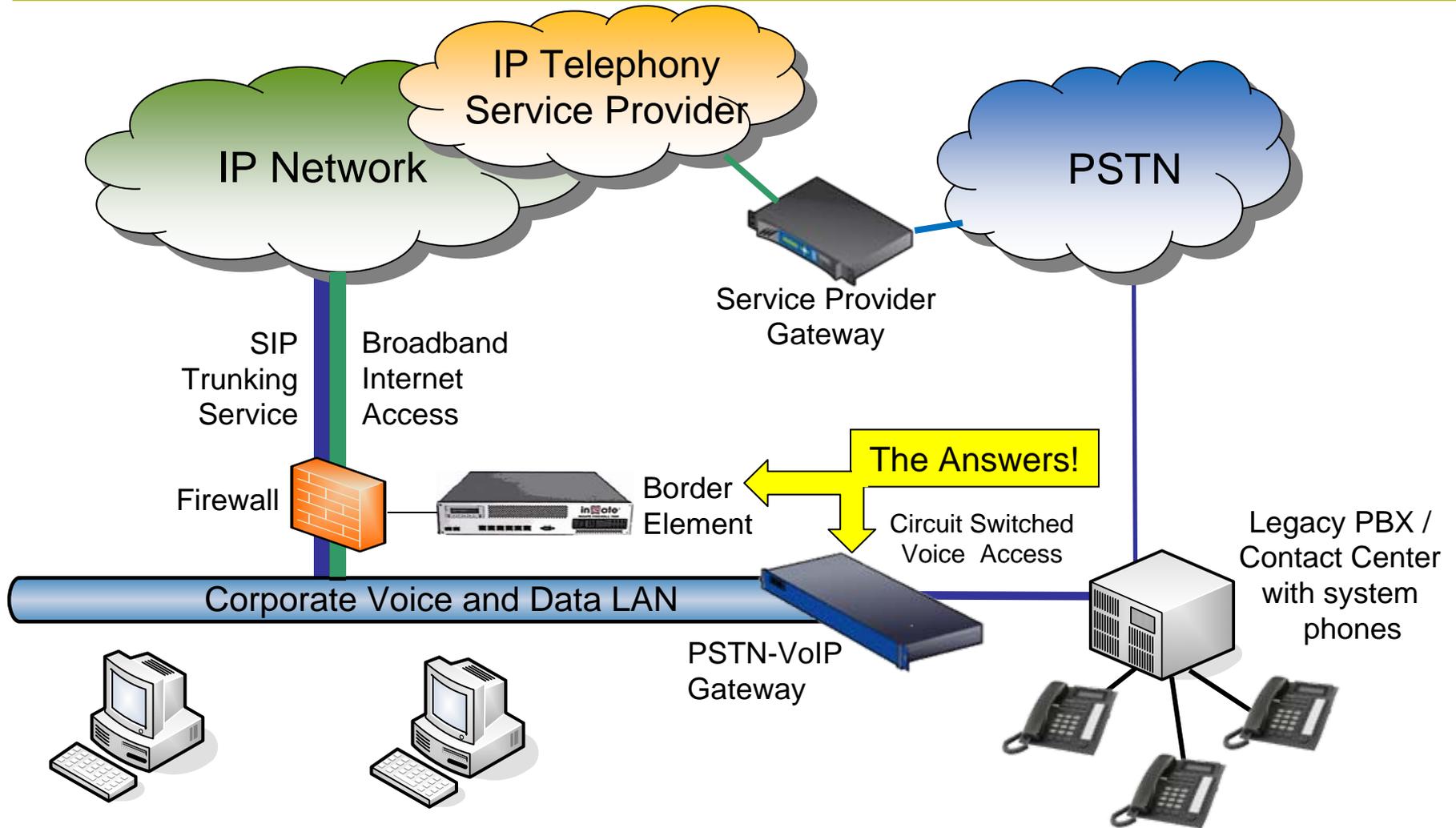
IP-PBXs

- 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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Carrier Equipment

- Acme Packet
- Broadsoft
- NexPoint
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- 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.....*

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
- f) Repurpose as PSTN connectivity when IP system is deployed (not a throw-away)



Press Release Overview

■ Press Release Headline

- Providing “any-to-any” PBX connectivity for SIP trunking, Dialogic Corporation, a global provider of world-class products and technologies for media and signal processing, announced today that the company will incorporate the award-winning SIP Trunking software module from Ingate® Systems into a new enterprise border element designed to connect virtually any SIP trunk with virtually any PBX

■ Ingate SIParator + DMG = Dialogic® Border Gateway



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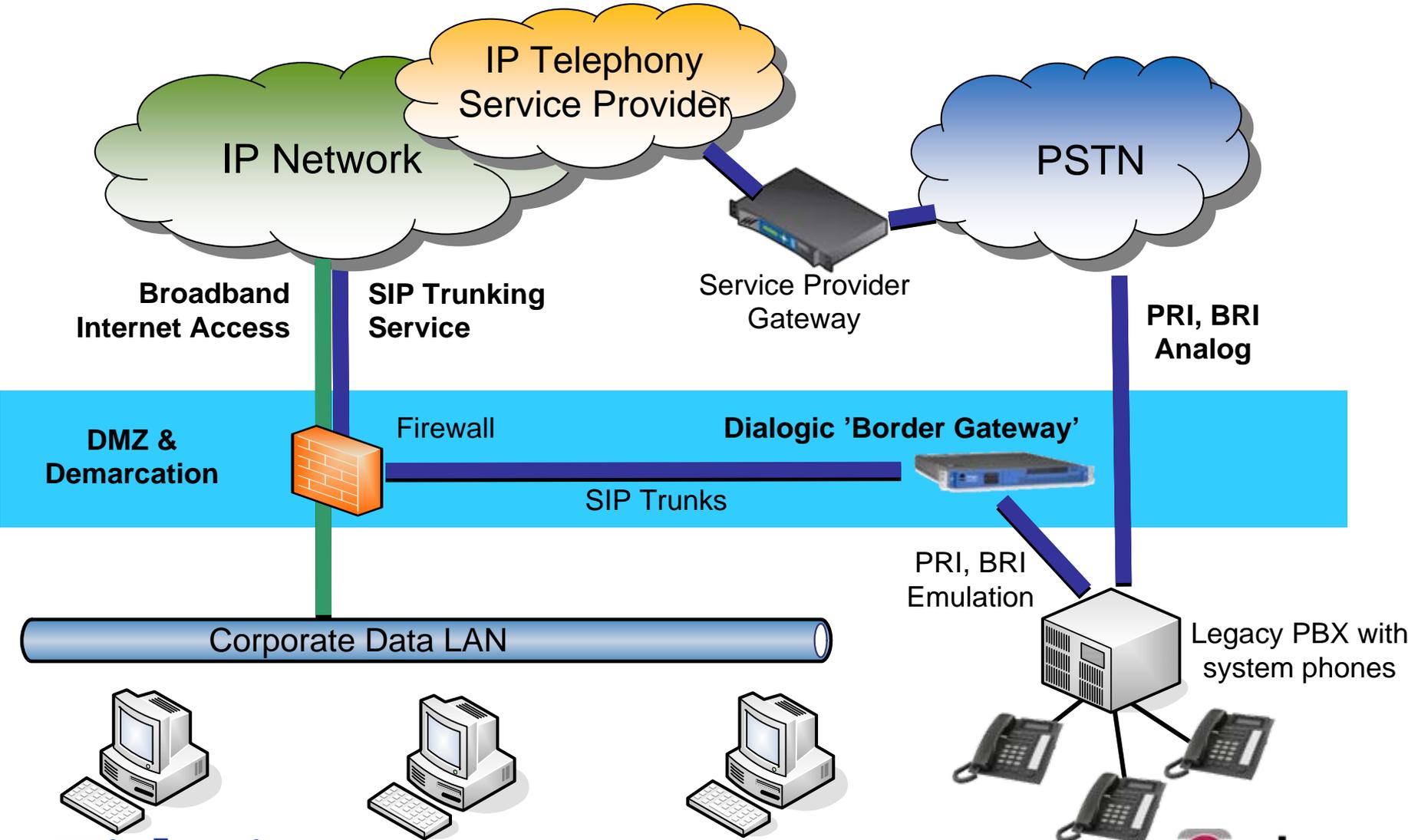
- NAT traversal
- SIP security
- ITSP interoperability

- SIP interoperability
- PBX connectivity
- PSTN connectivity

- Enterprise Edge Device
- Any to Any

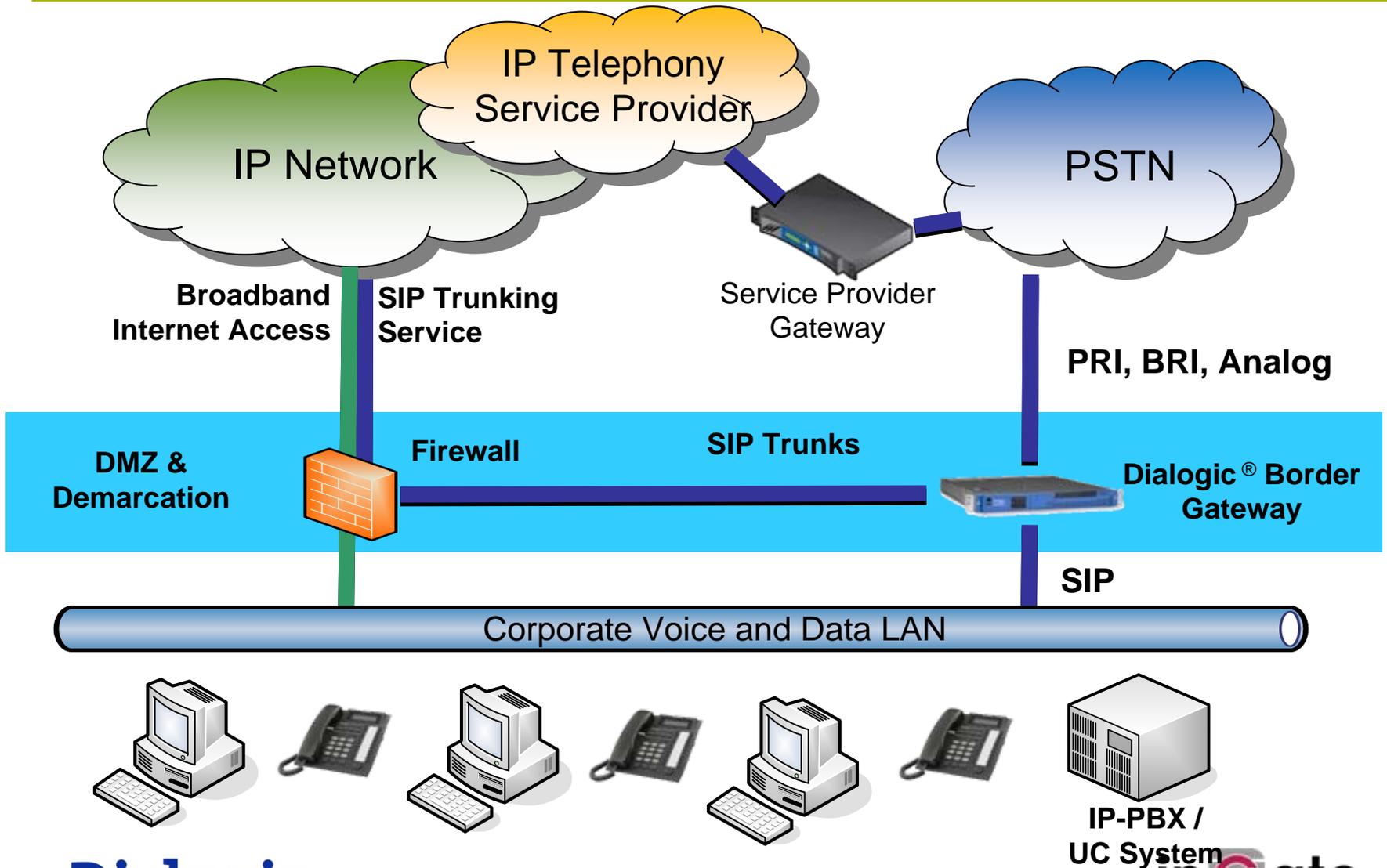
DMG4000 = Dialogic® 4000 Media Gateway

Dialogic® Border Gateway: Legacy PBX Connectivity*



* - Please refer to USE CASE(S)' portion of the Legal Notice on the last slide.

Dialogic® Border Gateway: IP-PBX Connectivity*



Dialogic® Border Gateway Interoperability

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 - Global Crossing
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- More in pipeline.....*

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- Acme Packet
- Broadsoft
- NexPoint
- Sonus
- Sylanro

SIP Trunks

Secure SIP Trunks



Dialogic Border Gateway

'PSTN' Trunk Emulation

IP-PBXs

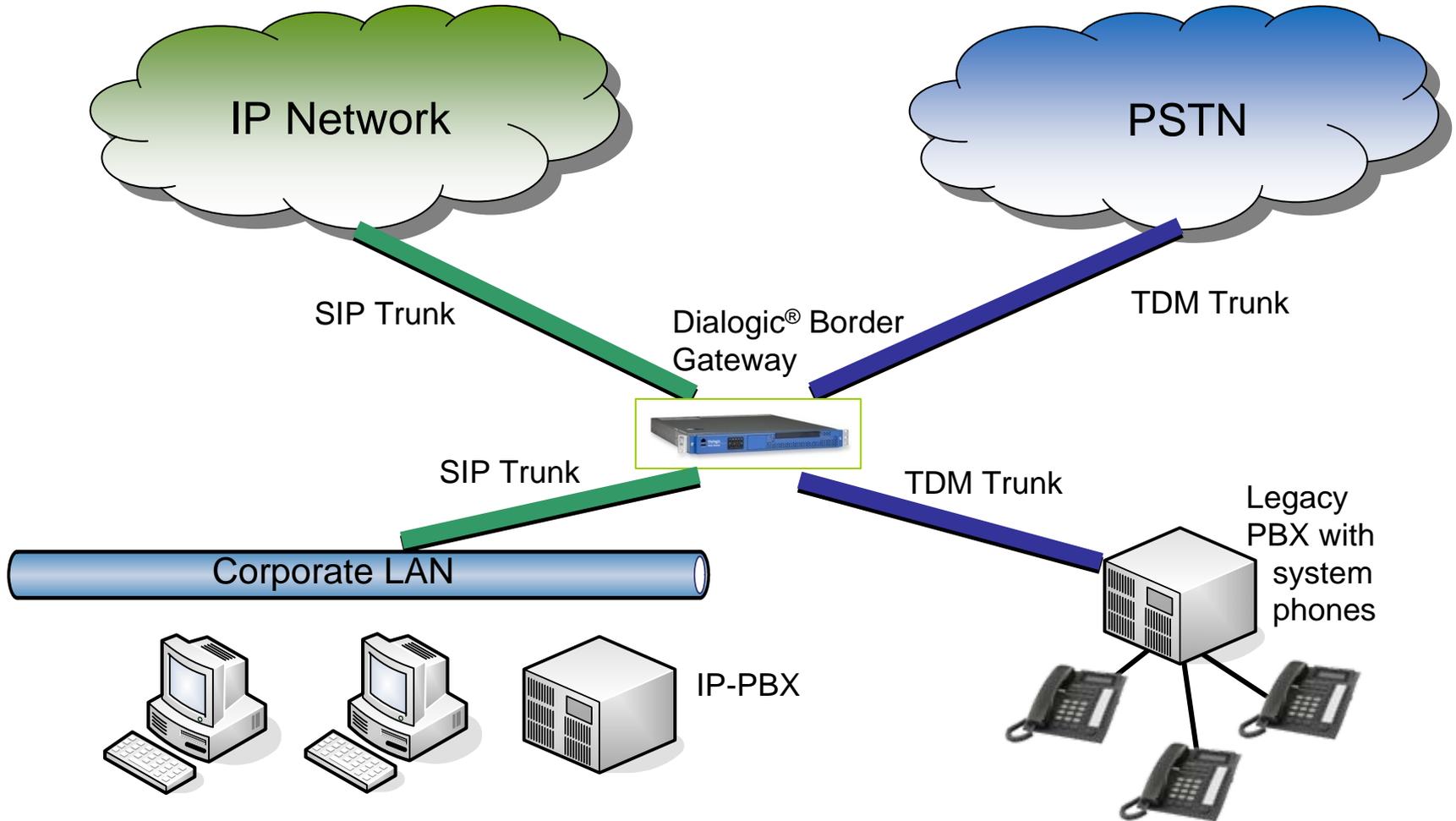
- 3Com
 - Aastra
 - Digium / Asterisk
 - Avaya
 - Cisco Call Manager
 - Ericsson MX-One
 - Fonality
 - Innovaphone
 - Interactive Intelligence
 - Iwatsu
 - Microsoft
 - Mitel
 - NEC / Sphere
 - Nortel
 - Objectworld
 - SER
 - Shoretel
 - Siemens
 - SIP-Gear
 - Swyx
- More in pipeline.....*

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...

Any-to-Any Connectivity*



* - Please refer to USE CASE(S) portion of the Legal Notice on the last slide.

Summary

89% Growth!



inGate + Dialogic



- SIP Trunking demand is accelerating and moving upstream from SMB to the Enterprise
- InGate SIPParator® 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
- Providing “any-to-any” PBX connectivity for SIP trunking
- SIP Trunk adoption moves an enterprise towards richer multi-media and unified communications services across public IP networks

Thank you for joining! Questions?

- Dialogic / Ingate Technology Brief
- Dialogic / Ingate Configuration Guide
- Dialogic and Ingate Product Brochures

- For more information visit:
 - www.ingate.com
 - <http://www.dialogic.com/solutions/uc/ingate.htm>

-or contact us directly
 - steve@ingate.com
 - vince.connors@dialogic.com



Call to Action

- Like what you see?
- Dialogic and Ingate are seeking
 - Resellers, End Users, OEMs, Service Providers
 - Pilot sites for the Dialogic® Border Gateway
 - Start now w/ 2 boxes
 - We will migrate you to a single box solution
 - Training & Support available
 - Pre-production system available in 1Q'10
 - Production systems available in 2Q'10



Dialogic, Dialogic Pro, Brooktrout, Diva, Cantata, SnowShore, Eicon, Eicon Networks, NMS Communications, NMS (stylized), Eiconcard, SIPcontrol, Diva ISDN, TruFax, Exnet, EXS, SwitchKit, N20, Making Innovation Thrive, Connecting to Growth, Video is the New Voice, Fusion, Vision, PacketMedia, NaturalAccess, NaturalCallControl, NaturalConference, NaturalFax and Shiva, among others as well as related logos, are either registered trademarks or trademarks of Dialogic Corporation or its subsidiaries ("Dialogic"). Ingate, Ingate Firewall, and Ingate SIParator are registered trademarks of Ingate Systems AB. Other names of actual companies and products mentioned herein are the trademarks of their respective owners. Dialogic encourages all users of its products to procure all necessary intellectual property licenses required to implement their concepts or applications, which licenses may vary from country to country. Dialogic may make changes to specifications, product descriptions, and plans at any time, without notice. Information set forth herein regarding Ingate Systems and its various products has been provided by Ingate Systems.

USE CASE(S)

Any use case(s) shown and/or described herein represent one or more examples of the various ways, scenarios or environments in which Dialogic products can be used. Such use case(s) are non-limiting and do not represent recommendations of Dialogic as to whether or how to use Dialogic products.

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