



Business
Services

Building a Global VoIP Network

Michael Burrell, Senior Manager
Orange Business Services

August 22, 2006



VoiceCon Spring

VoiceCon Fall

VoiceCon VOIP Implementation Tour

VoIP Loop

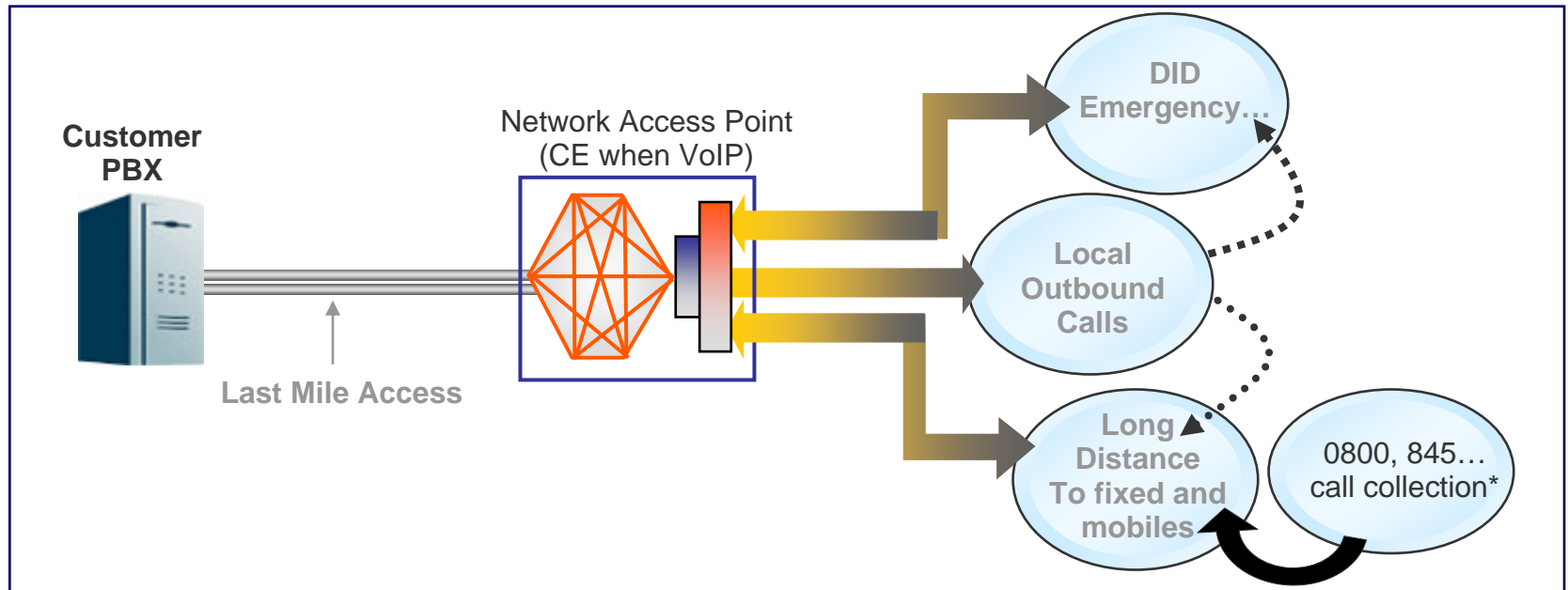
VoiceCon Forum

Service Provider relationships

- > what service provider relationships and types of carrier services are typical in various regions of the world?

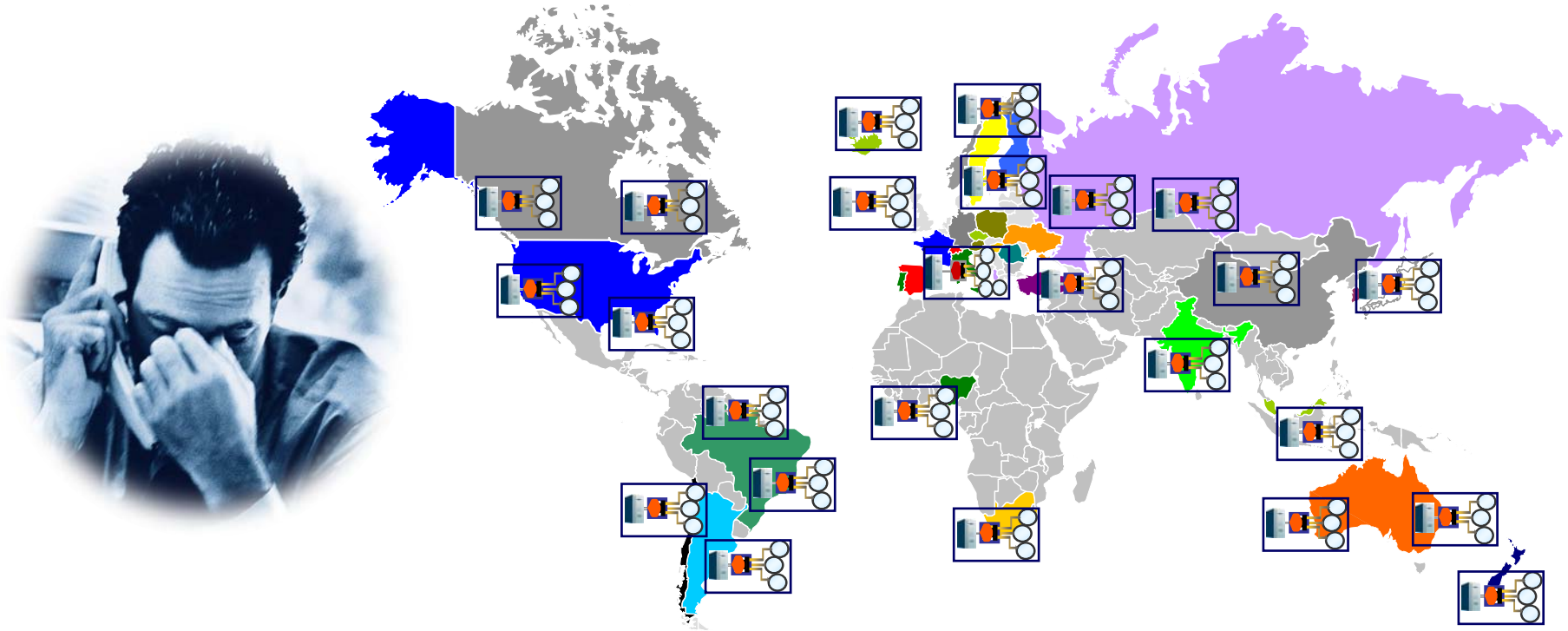


types of carrier services



- > Local Services - DID, Emergency
- > Local Outbound Calls – Typically TDM, IP Centrex (developed countries)
 - May incur usage charges for local calls in certain countries
- > Long Distance or International Calls – Outbound fixed, mobile, domestic or international, plus inbound calls
 - TDM or IP Trunking (mainly H.323, some SIP)

coverage vs. control challenge

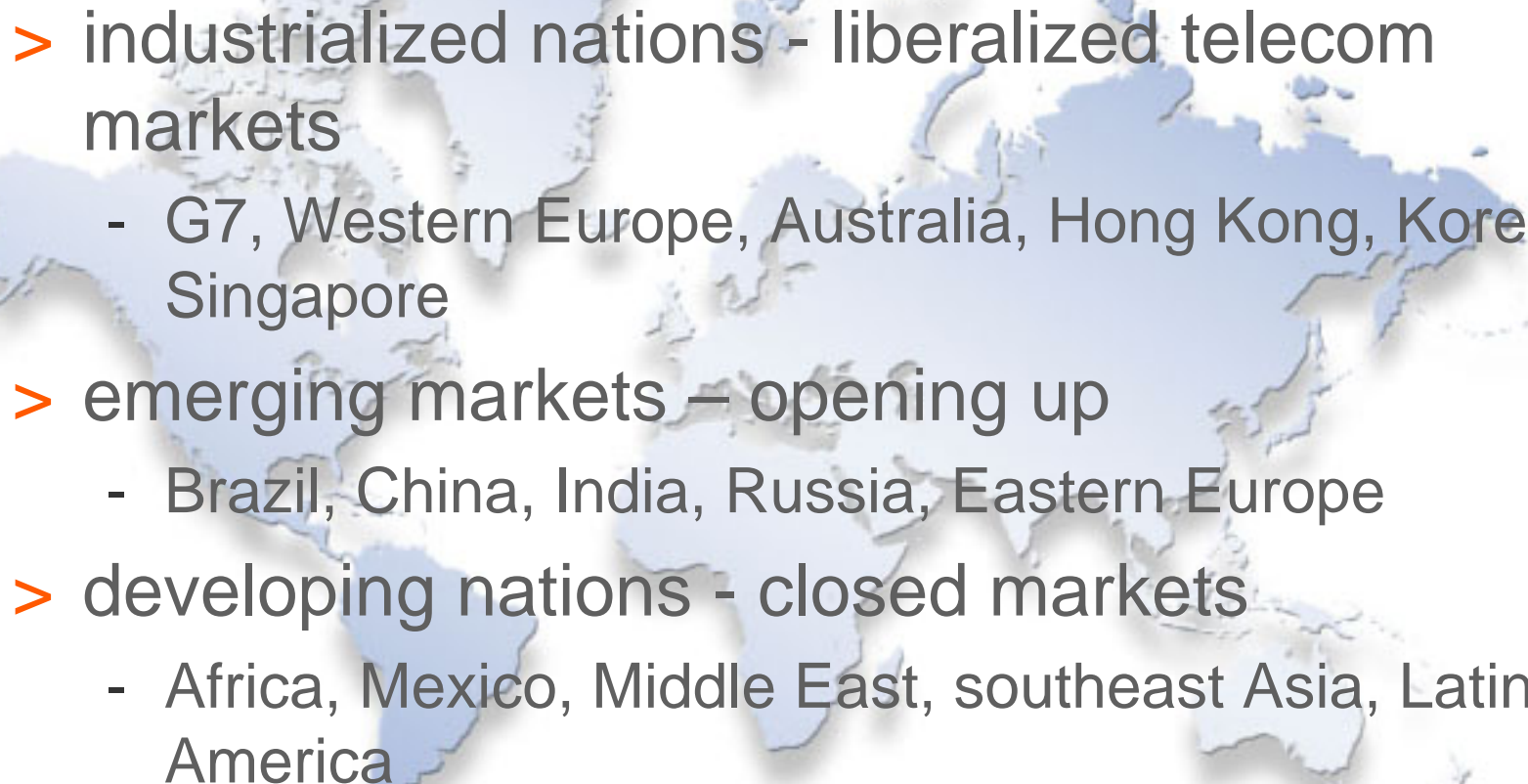


250 sites, 5 business units, 50 countries...100+ relationships!

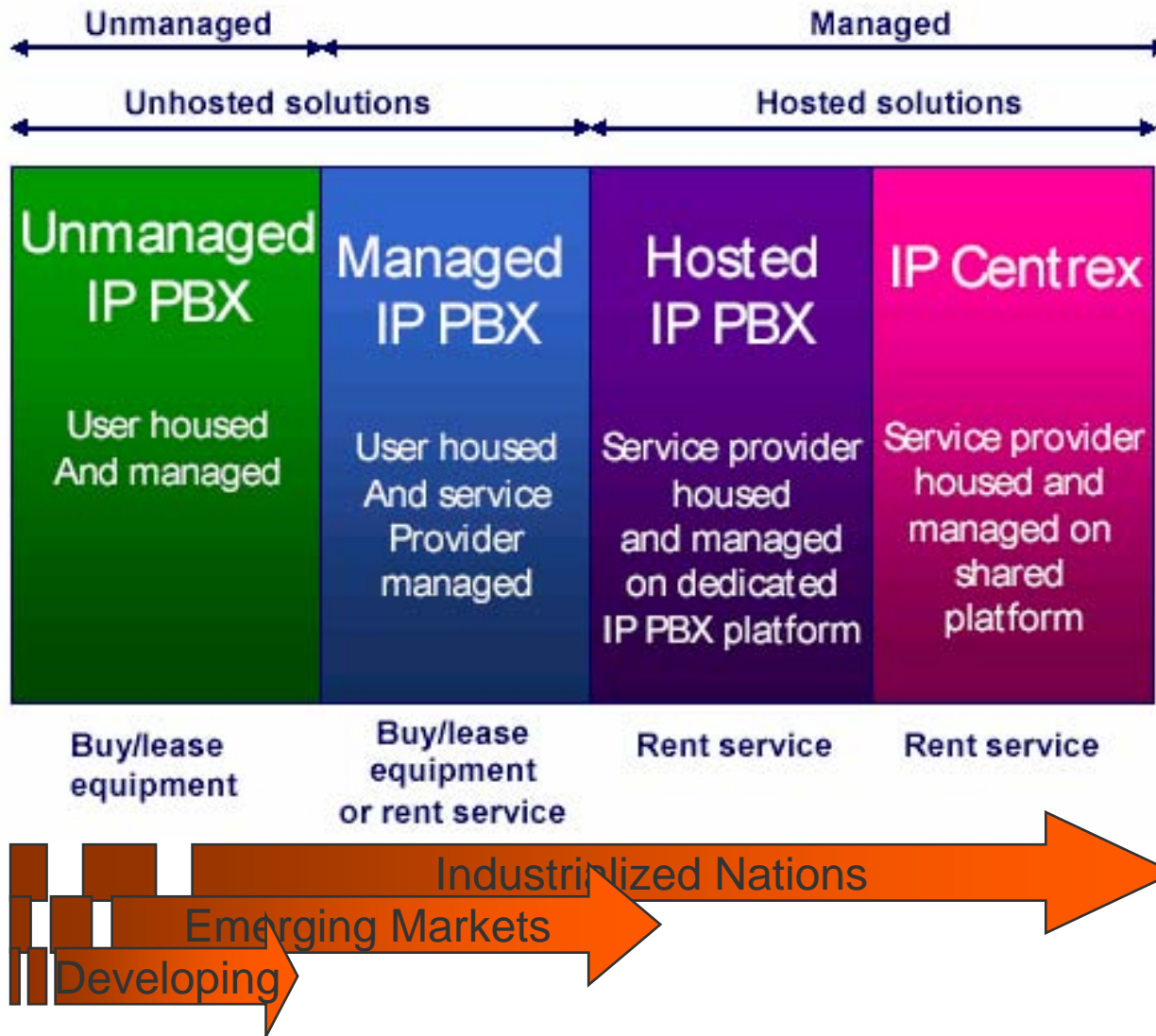
multiple SPs, price schemes, circuits, CPE, maintenance contracts, bills,
help desks, points of failure result in limited network flexibility...
...and difficult to know the overall cost!



SP relationships driven by regulatory factors

- 
- > industrialized nations - liberalized telecom markets
 - G7, Western Europe, Australia, Hong Kong, Korea, Singapore
 - > emerging markets – opening up
 - Brazil, China, India, Russia, Eastern Europe
 - > developing nations - closed markets
 - Africa, Mexico, Middle East, southeast Asia, Latin America

types of telephony services



comparison of telephony services

● poor ● ● ● good

	IP-PBX	Managed IP-PBX	Hosted IP-PBX	IP-Centrex
IP-PBX on customer site	yes	yes	no	no
Need for service provider	no	yes	yes	yes
Shared (multi-tenant)	no	no	no	yes
Flexibility, scalability	● ● ●	● ●	● ●	●
Features, customized apps	● ● ●	● ●	● ●	●
Reliability, disaster recover	● ●	● ●	● ● ●	● ● ●
Migration to VoIP	●	●	● ●	● ●
Ease of install, Capex	●	● ●	● ● ●	● ● ●
Customer support	●	● ●	● ● ●	● ● ●
Multi-site networks	● ●	● ●	● ●	● ●
Target market	Large sites	Medium to Large	Medium sites	Small to Medium

Source: Delphi Inc., FTNA analysis

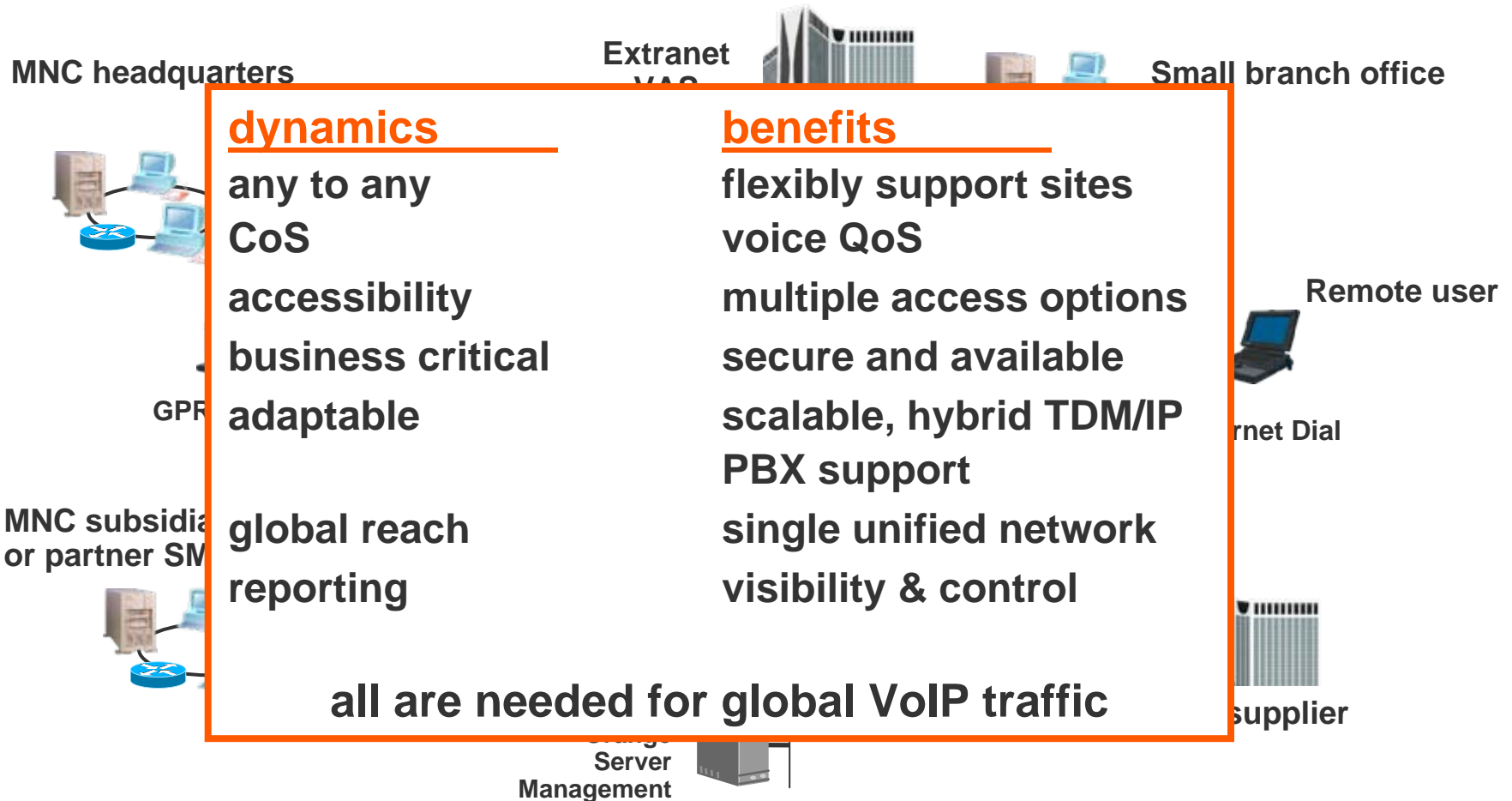


global network integration

- > how do you knit your diverse regional networks into a seamless global enterprise network?



answer: MPLS based IP VPN



roll-out strategy

- > what's the best strategy for rolling out IP Telephony to the various sites in your multinational network?
 - set the strategy first: avoid one for one replacement
 - pick a region, any region: close to home vs. far away
 - centralized architecture
 - deploy first or early on to benefit small-medium sites
 - LAN IPT first or WAN?
 - proof of concept pilot
 - opportunistic site deployment
 - PBXs end of life or end of lease
 - long-term migration: ROI driven



multi-vendor vs. single vendor

- > feature support - least common denominator
- > multi-vendor management capability
- > administration tools
- > training costs
- > disaster recovery
- > volume discounts
- > SIP?

multi-vendor = 20%+ higher TCO



implementation

- > Integrator vs. Service Provider
- > equipment and network provisioning
 - **VAT management critical: 18%+**
- > staging, configuration and installation
 - centralized vs on-site staging
- > project management
 - consistent project management methodology to reduce risk
 - site/end user migration strategy by country by city
- > documentation and training
- > customer site acceptance
- > operations hand-over

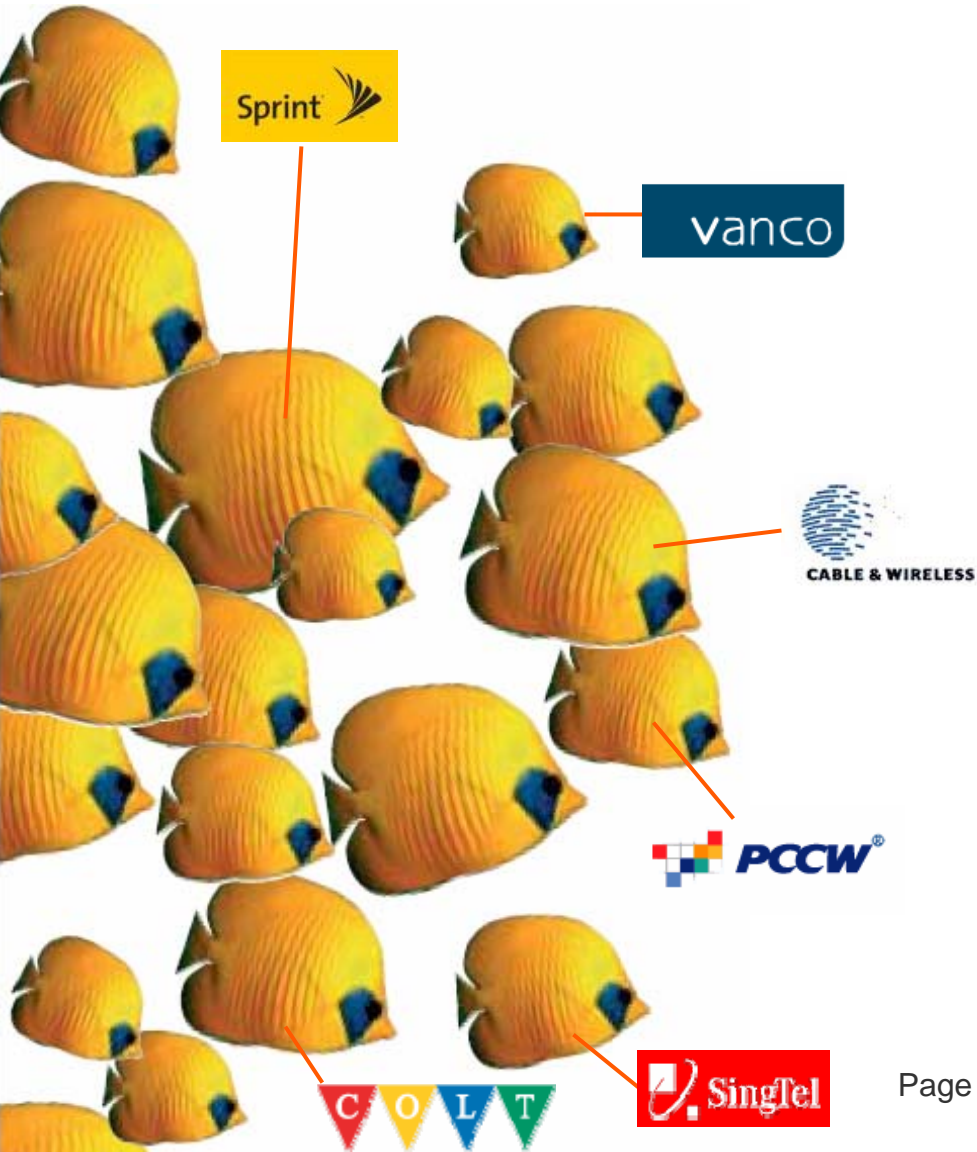


Service Providers

- > how are the different carriers' strengths in different regions of the world likely to affect your global IP-telephony rollout?



regional players







global players



SP capabilities



life cycle services				
design	✓	✓	✓	Partner
resell equipment	✓	✓	✓	✓
deploy	✓	✓	✓	Partner
operational support	✓	✓	✓	✓
maintenance	✓	✓	✓	Partner
managed services	✓	✓	✓	✓
IP trunking	✓	✓	✓	✓
VoIP VPN Advanced Features, Dial Plan, LCR, Forced On-net, etc	✓	✓	✓	✓
where?	Europe	Global	Global	Global



Service Provider strengths - network service



Service Offerings	Full Range	Full Range	Full Range
Countries	59	72	97
Strengths	<ul style="list-style-type: none"> > Strong global coverage > Attractive off-net pricing > Web-based monitoring tools > Global customer care > Voice-specific SLAs 	<ul style="list-style-type: none"> > Flexible service based on complexity, functionality a customer requires > Strong SLAs > Extranet type offering EMEA > Strong IP MPLS in Europe 	<ul style="list-style-type: none"> > Extensive coverage > Online performance monitoring > Application based SLAs > Significant cost-savings for off-net calls, origin-independent pricing > Strong partners, such as Cisco, Avaya, HP > Feature-rich VoIP

Service Provider strengths – Integration Services



<p>IP Trunking</p>	<p>Avaya, Cisco, Nortel, Siemens and Alcatel</p>	<p>Avaya, Cisco, Nortel</p>	<p>Avaya, Cisco, Nortel, Alcatel and Aastra</p>
	<p>Global Strategic Alliance Partner US Capability</p>	<p>Platinum SP Business Partner Europe</p>	<p>Global Strategic Alliance Partner Global Capability</p>
	<p>IP Communications US, UK</p>	<p>IP Communications Europe, US</p>	<p>IP Communications Global Commerce</p>
	<p>IPT Select Partner US, UK</p>	<p>Global Partner UK Capability</p>	<p>Global Solution Partner Resale</p>
	<p>None</p>	<p>None</p>	<p>Premium Business Partner France</p>

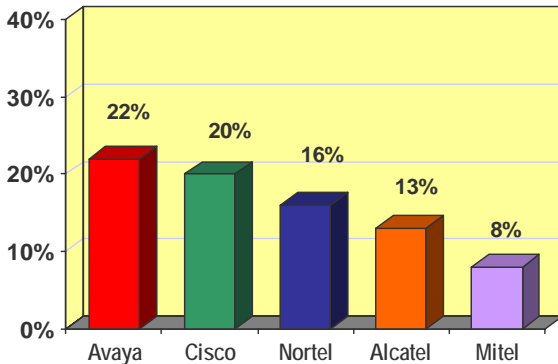
vendors

- > how are the different vendors' strengths in different regions of the world likely to affect your global IP-telephony rollout?
 - vendor market share
 - presence
 - certified design personnel
 - ability to deploy
 - reliance on partners
 - localization of features
 - ongoing management services



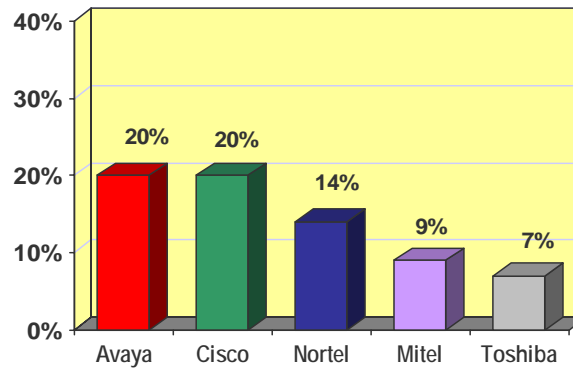
major vendor IPT market position by region (1Q06)

Worldwide IP Telephony



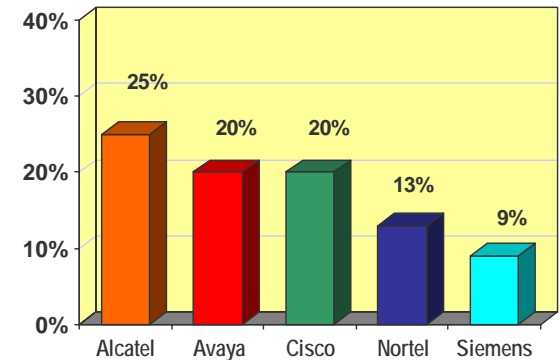
Source: Synergy Research Group
Unit of Measurement: Lines
Time Period: 1Q06

U.S. IP Telephony



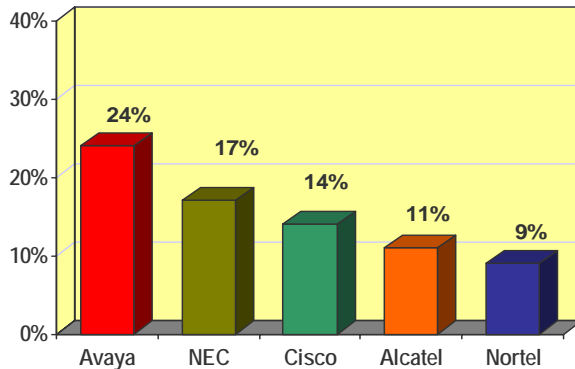
Source: InfoTech
Unit of Measurement: Lines
Time Period: 1Q06

EMEA IP Telephony



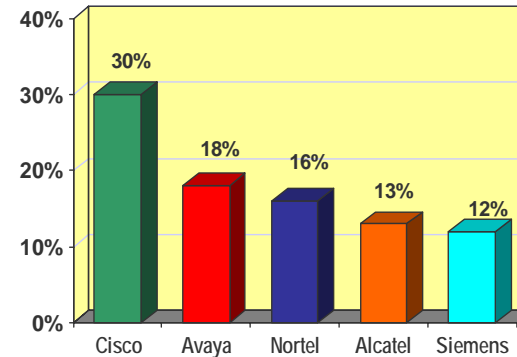
Source: Synergy Research Group
Unit of Measurement: Lines
Time Period: 1Q06

Asia Pacific IP Telephony



Source: Frost & Sullivan

Latin America IP Telephony



Source: IDC

regulatory environment impact

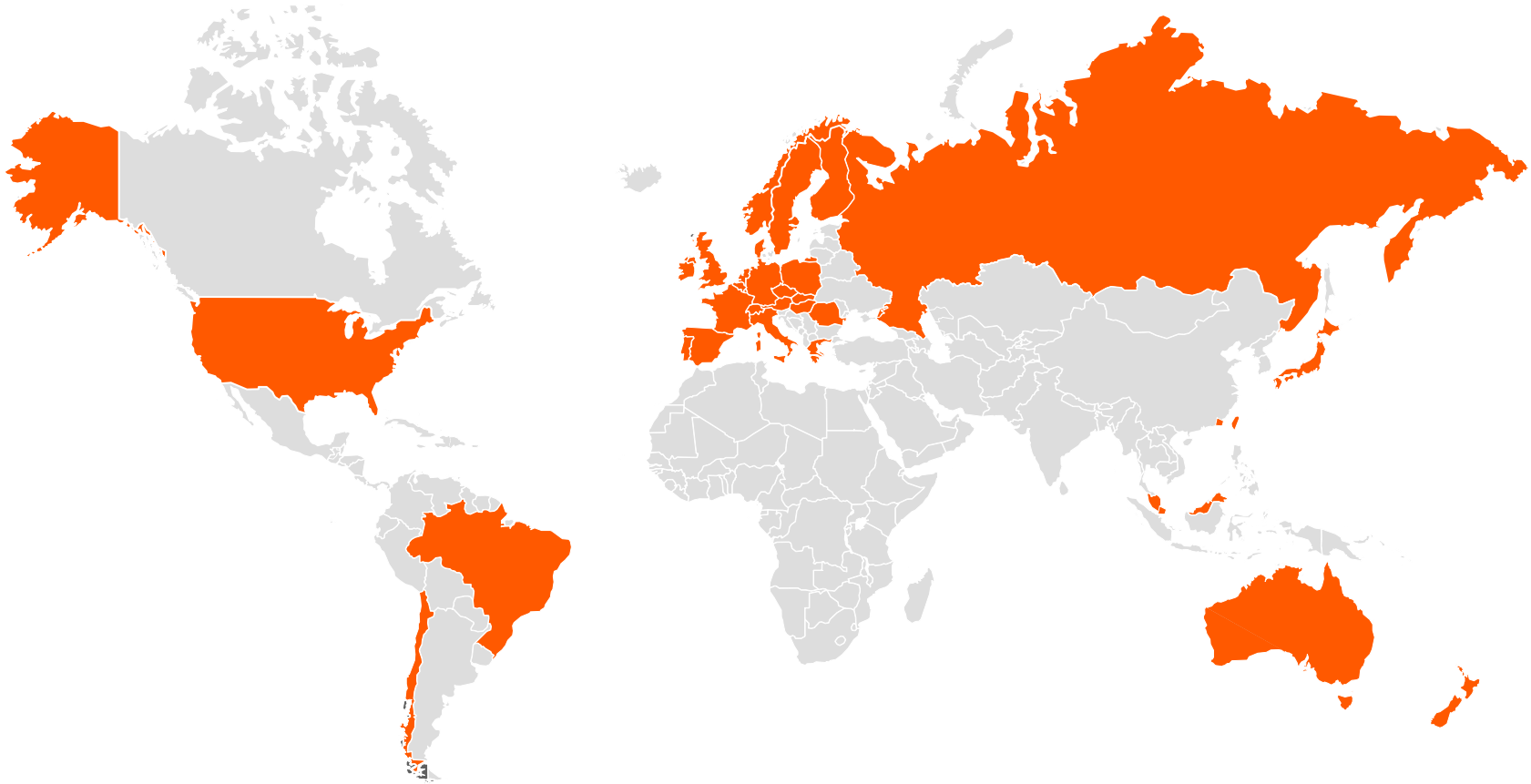
- > what unique regulatory environments may affect IP-telephony in different parts of the world?



- > certain markets are closed (China) or just opening (Turkey, India)
- > obscure regulations (India PC voice)
- > certain restrictions – video in Middle East or Islamic countries, security and encryption in China

Orange in-country voice authority

YES ✓



- > Countries with direct in-country voice PSTN presence, carrier code and license



be aware of...

> cultural differences

- US tends more toward DIY, Europe toward managed services and out-tasking
- end user cultural differences:
 - message handling: voicemail vs. operators
 - localization support

> invoice flexibility

- single-site vs. multi-site, CDRs, bill-back ability
- implementation charges in local currency with VAT itemized
- billing in currency of choice, format (electronic)

> SLAs

> reporting



summary

- > complexity reigns
- > regulatory/market forces shape options
- > MPLS IP VPN to integrate global network
- > consolidate Service Providers globally
- > centralize and standardize to gain greatest benefit
 - essential to set the global/regional strategy
 - single vendor strategy to lower TCO
- > global reach, local presence
 - eliminate locally provided maintenance contracts

