



SIP Trunk Services: Separating Fact from Fiction

August 3, 2010

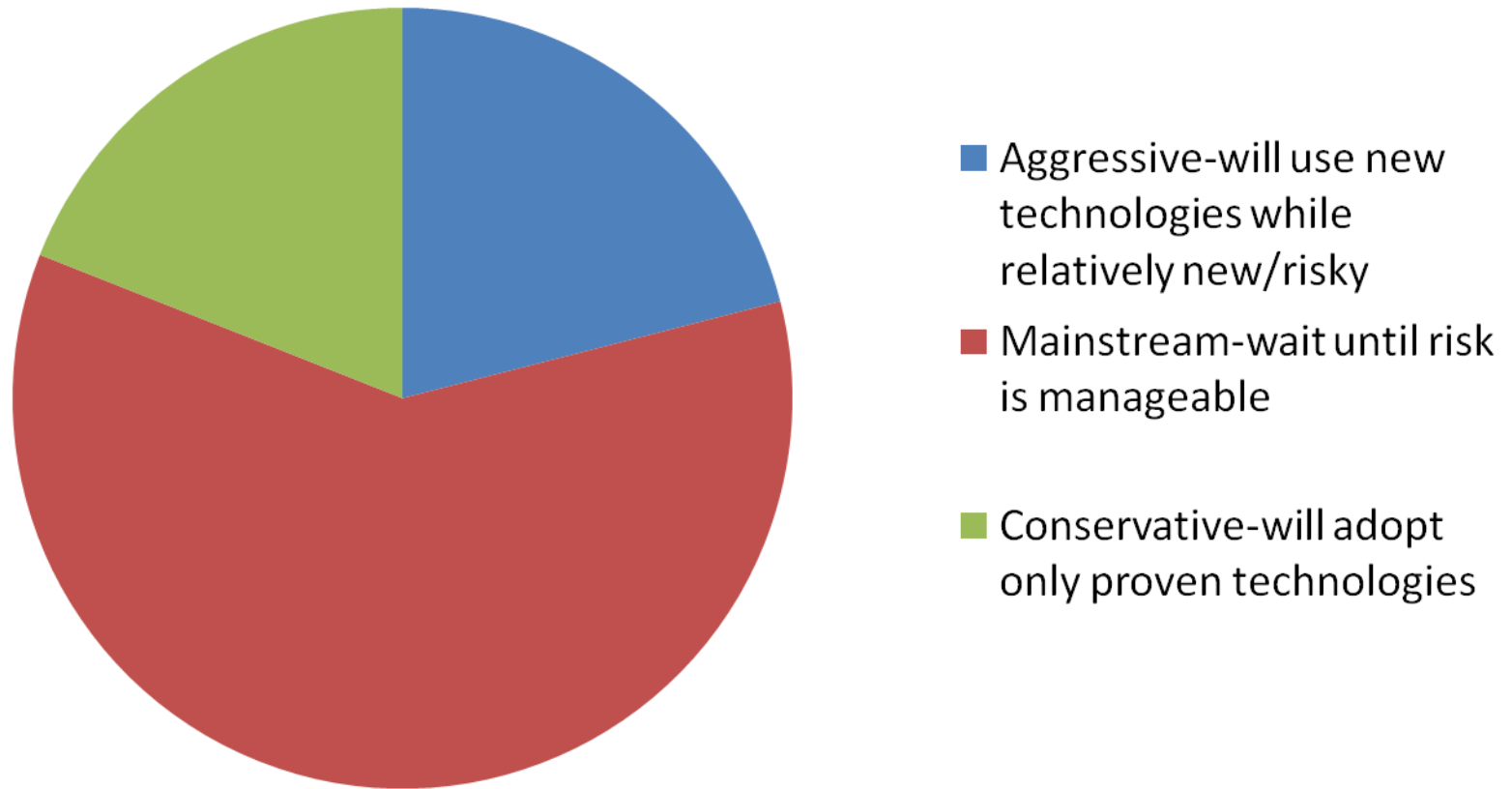
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Agenda

- Critical Problems Facing Businesses
- UC and SIP Trunks
- Other SIP Trunk Benefits
- SIP Trunk Service Evaluation Criteria
- Current and future state of US SIP Trunk services

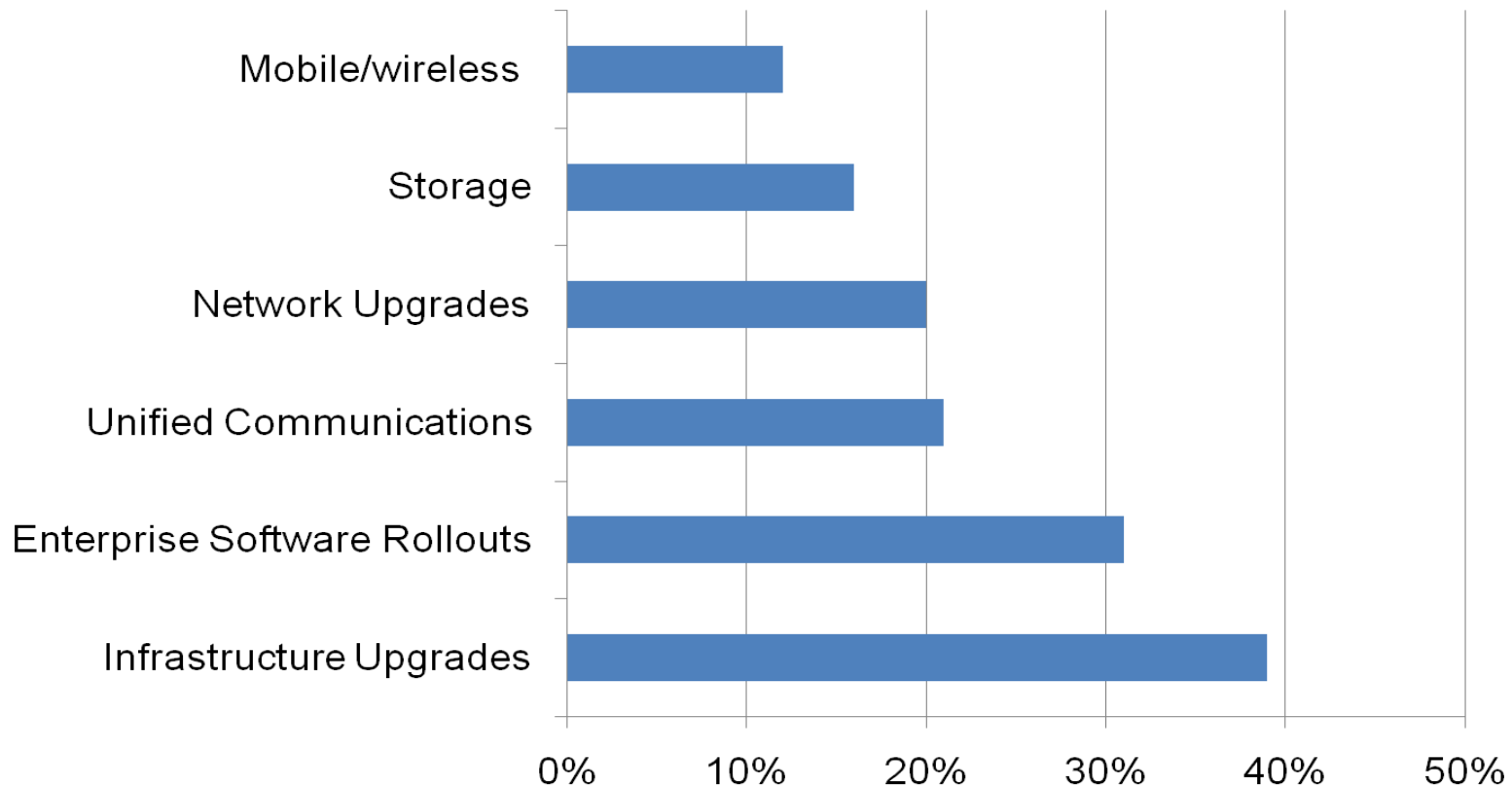
Sixty Percent of CEOs are “Later” Technology Adopters

2010 CEO Technology Risk Profile

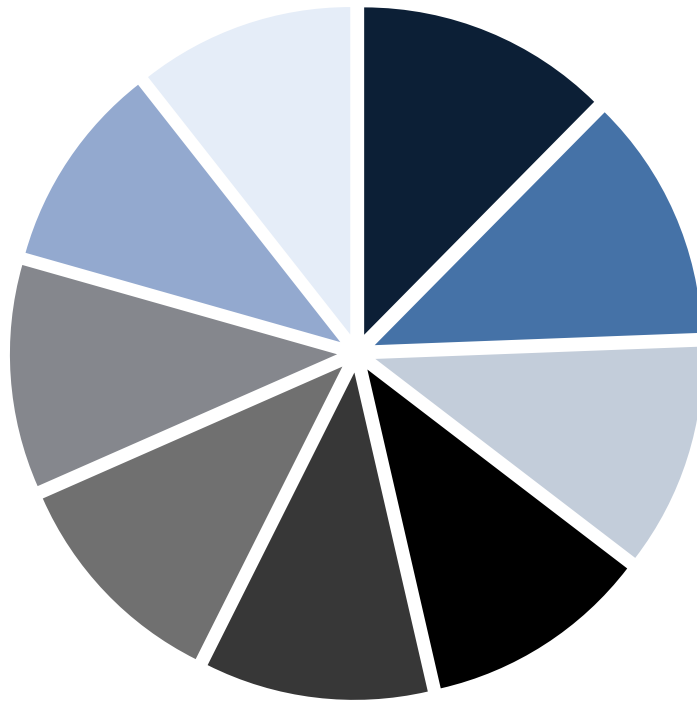


Network Spending Took a Big Hit

Percent of CIOs Who Cancelled or Delayed Projects in 2009 Due to the Economy

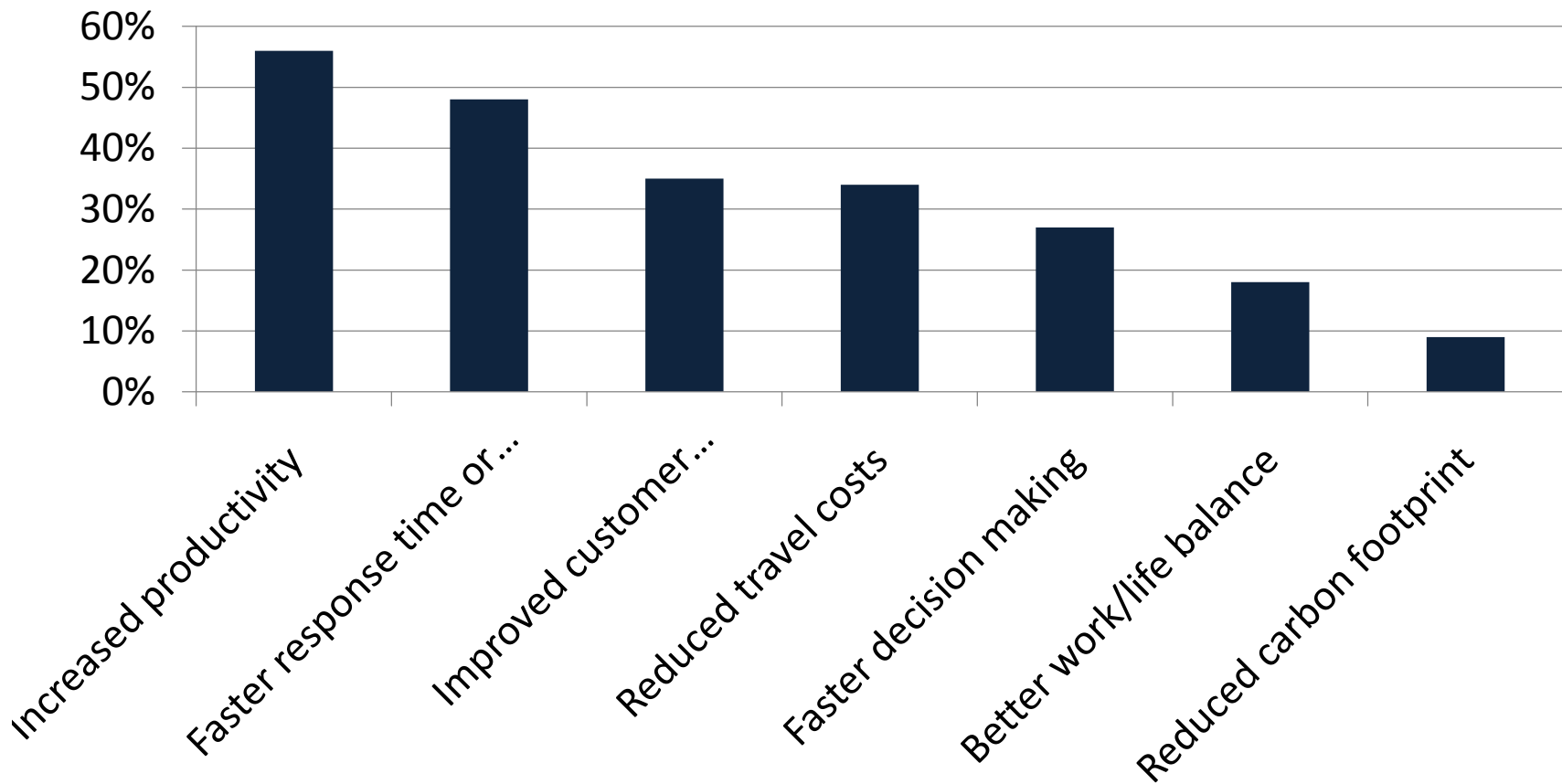


Critical Challenges Facing US Businesses



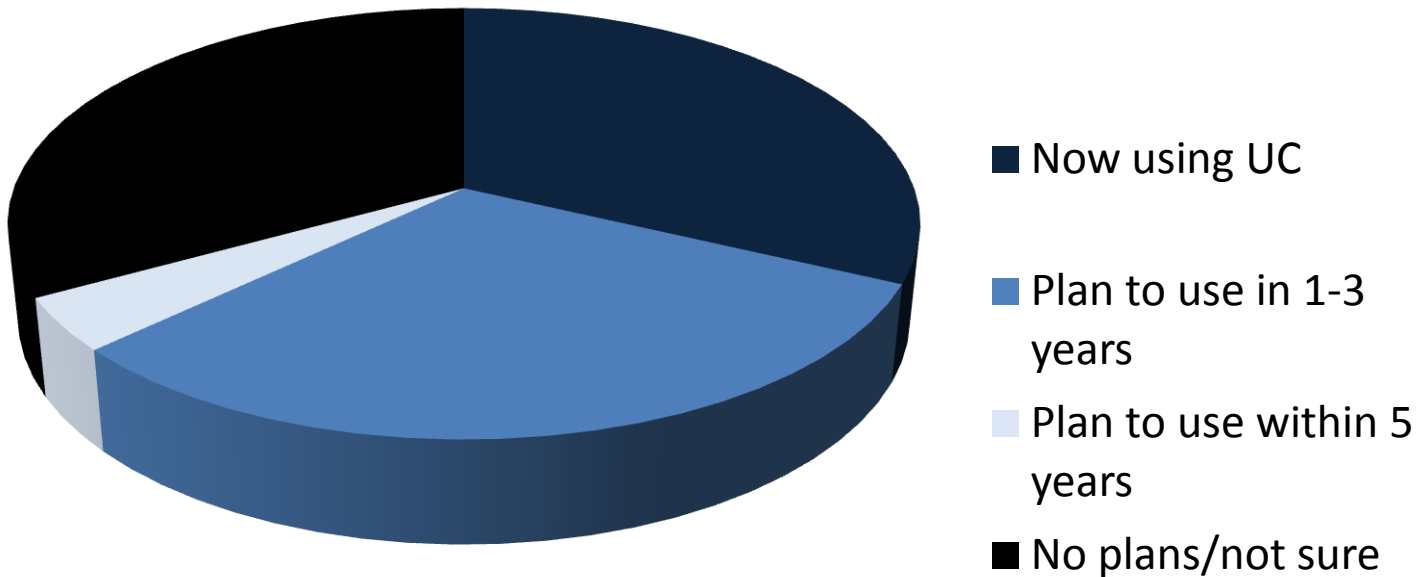
- Improve efficiency/reduce costs
- Increase employee productivity
- Collaborate across employees, partners and suppliers
- Become more nimble and flexible

Unified Communications (UC) Provide the IT Tools to Support Many Key Business Objectives



Source: CIO Magazine

2009 U.S. Business Customer UC Deployments



Select UC Benefits Cited by Key Business Functions

Department	Percent Respondents Who Cited	Metric
R&D	44	Shorter product development cycle
R&D	42	Product better suited to market requirements
R&D	44	Higher product quality
Sales	45	Improve sales success rate
Sales	41	Reduce cost of sales
Sales	42	Reduces sales cycle time

Source: Frost and Sullivan, "Meetings Around the World II" survey, October 2009

Examples of UC Applications

Category	Description
<i>IP-Based Collaboration and Conferencing</i>	Point-point and multipoint HD videoconferencing (desktop, room/telepresence), web/data conferencing or whiteboarding augmented by audio
<i>Find Me/Follow Me</i>	Enabled by presence engines, often included in Fixed Mobile Services like consecutive ring or single number service
<i>Unified Messaging</i>	Unified inbox/outbox (single message box that handles email, IM, fax, landline and mobile phone messages) often augmented by text-to-speech and speech-to text capabilities
<i>Contact Center</i>	Presence is used to optimize call/session handling; other common UC applications used in contact center applications include click to chat, click to call and speech recognition
<i>Communications-Enabled Business Processes</i>	Communications features are embedded in applications that historically don't include communications, like CRM or ERP. For instance, 'Click to call' or IM embedded in a salesforce.com app.

SIP Trunk Benefits

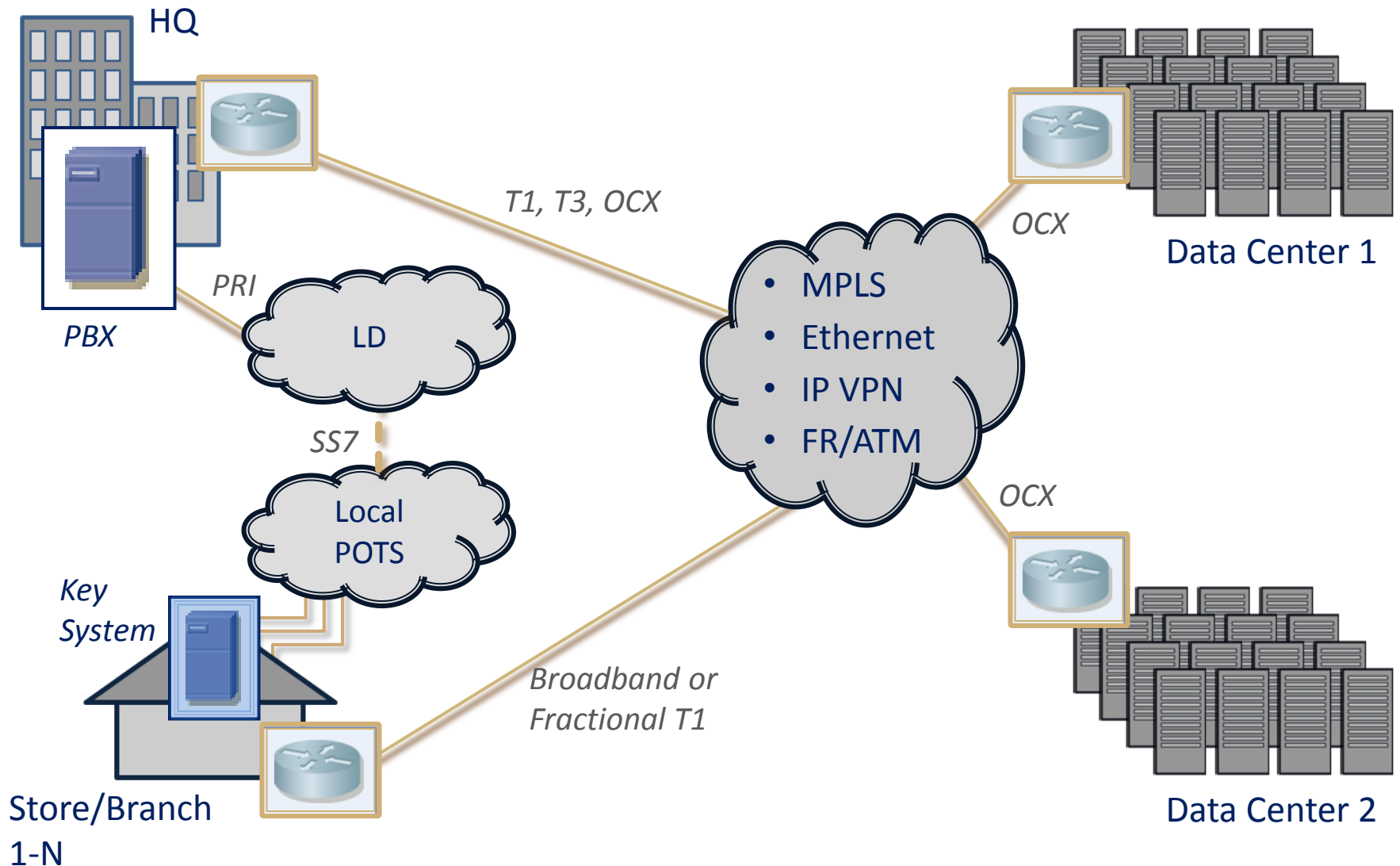
Include Connecting UC 'Islands'

Function	Example
<i>Support for multi-site UC Applications</i>	See prior slide for some examples- can be especially important to cost-effectively extend UC to small/remote sites
<i>Decreased Telecommunications Expenses</i>	Reduce the number of service-specific access lines and trunks on either a local or long distance basis, frequently also decreasing the effective price of on-net calls. Some providers' SIP Trunk services also offer lower prices on local calls or blocks of DIDs.
<i>Simplified Architectures</i>	Companies that implement UC and SIP Trunks often make heavy use of strategically-placed data centers. This often results in drastically simplified IT/network architectures.
<i>Future Migration</i>	Paves the way for future migration to advanced WAN services like Ethernet VPLS, or cloud/SaaS-based solutions

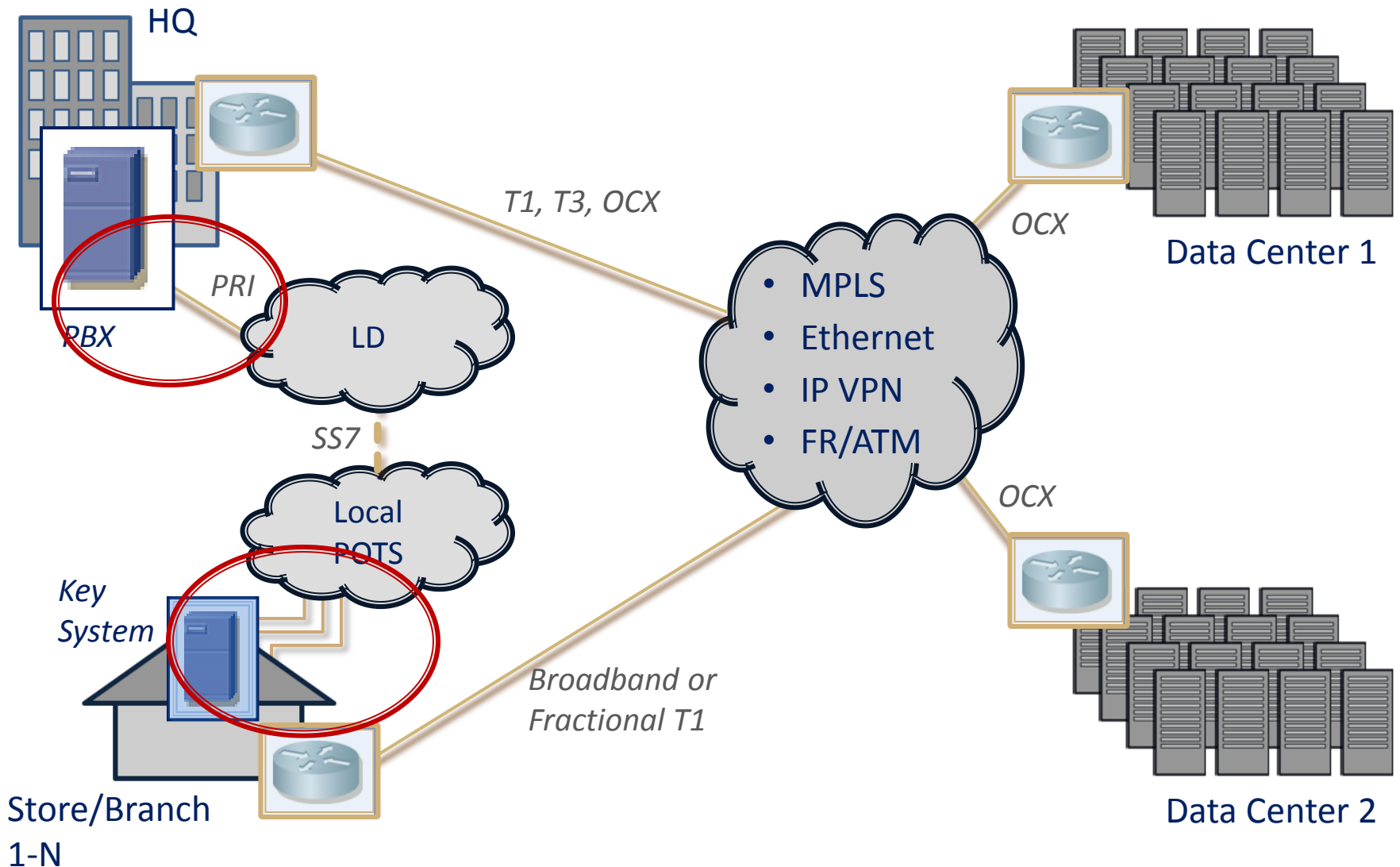
Why Use Carrier-Based SIP Trunk Services?

- **Interconnect UC/VOIP 'Islands'**
 - **Extend UC to mobile users, teleworkers, suppliers, customers...**
- **Interface to network-based SIP services (FMC, hosted UC...)**
- **Improve Flexibility (vs. TDM, PRI)**
- **Reduce Costs**
 - **20-40%+ access-related cost reduction ("your mileage may vary")**
 - **Move more calls to an on-net, pure IP environment**
- **It's possible to obtain some convergence benefits before complete migration to IP PBX**

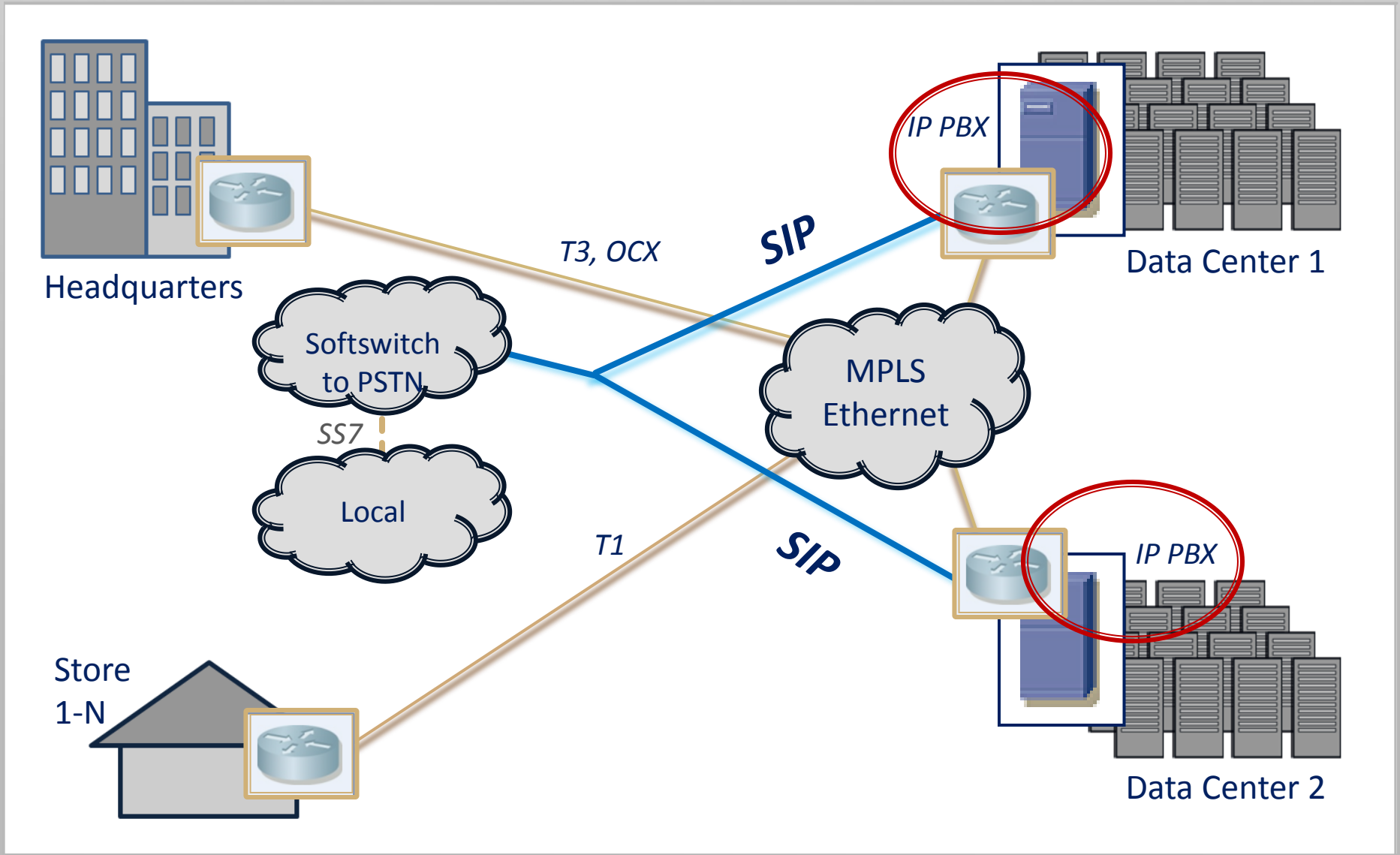
Simplified Enterprise Architecture Before SIP Trunk Service



Many SIP Trunk Architectures Appear Only to *Replace* Existing Carrier Trunks



But To Save Money, the Enterprise often Must *Re-Architect* for SIP



Five Critical SIP Trunk Service Considerations

- **Enterprises should always inquire about providers' current and planned SIP Trunk Service:**
 - **Features/Functions**
 - **WAN Service Interoperability and Vendor Compatibility**
 - **Performance and Resiliency**
 - **Geographic Availability**
 - **Price**

1. Verify SIP Trunk Features/Functions

- **Providers' offers diverge greatly**
 - **Definitions of 'on-net'**
 - **Calling features (PSTN equivalents)**
 - **UC features (Presence, Virtual Telephone Numbers, Fixed Mobile Convergence, etc.)**
 - **(Voice) Bursting**
 - **Use of broadband access (DSL, Cable - future)**
 - **Backup/overflow features**
 - **Access to Operator Services, N11, Directory Assistance, Call Detail Records**

2. Verify WAN Service and CPE Vendor Interoperability

- **Service Interoperability - Not all SIP Trunk providers currently support:**
 - **MPLS**
 - **Internet Access**
 - **IP Toll Free Service**
 - **IP ACDs, IP IVR/VRUs**
- **Vendor interoperability for specific functions, features, functions**
 - **Standards exist, but aren't enough. Most providers have their own CPE certification processes.**
 - **Limited compression functions compared to CPE (most SIP Trunk services only support G.711, G.729 a/b)**

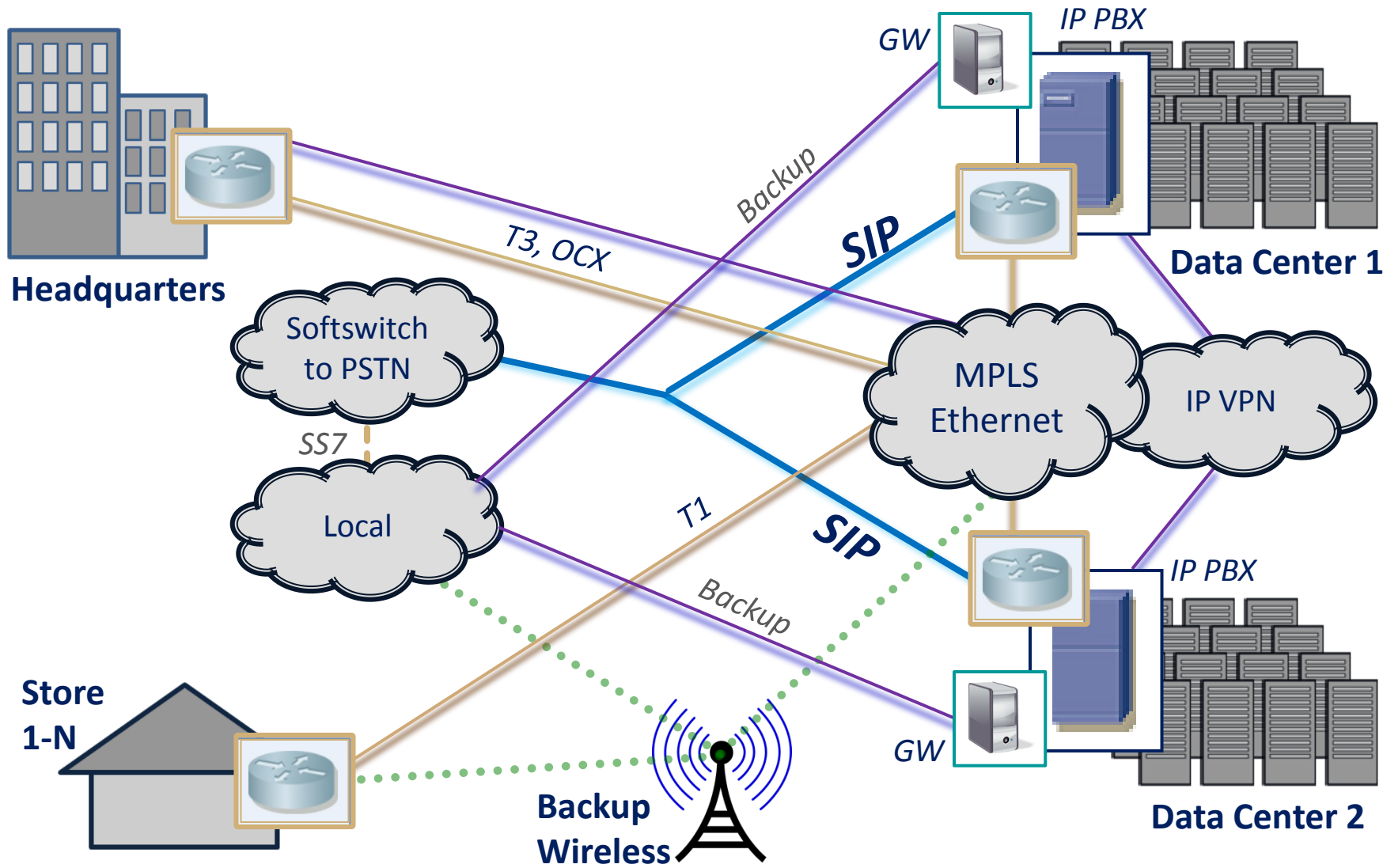
3. Verify Performance and Resiliency (Part 1)

- **Quantity of provider's VOIP/SIP infrastructure, quality of redundancy**
- **Customer business continuity — SIP Trunk backup/overflow to SIP, PRI, Inband Trunks**
- **SIP - specific security functions vary by provider — one key reason need Session Border Controllers (SBC)**
- **Given small installed base, many providers' installation, monitoring and management processes require extensive human involvement — which can't scale**
- **Day 1 and 2 processes and support**
 - **Design, ordering and provisioning - little automation/flow through**
 - **Monitoring, remediation — often Layer 1-3 focused**

3. Verify Performance and Resiliency (Part 2)

- **Trouble resolution can depend on insight into history**
 - **Range of retention of performance data is from 3 to 14 months**
 - **Type of info retained varies greatly-those with data-centric processes don't yet retain application-level performance data**
- **Portals/automation – 25% allow some MAC functions via portal**
 - **13% can quote a standard change interval (5 days)**
 - **38% support SIP Trunk trouble reporting via portal**
- **SLAs —**
 - **25% offer installation SLAs (but with one exception, all intervals are ICB-typically 60-90 days)**
 - **13% offer MTTR SLA**
 - **All availability SLAs kick-in after 30 minutes (or more) of each (unscheduled) outage**
 - **Less than 40% support voice-specific SLAs**

'Optimized' WAN Architecture with SIP Trunks Needs Backup



4. Verify Geographic Availability

- **Domestic SIP Trunk footprint may differ from same Provider's PRI Footprint**
 - Often less
 - Sometimes greater
- **International SIP Trunk availability by country/city varies greatly by provider**
 - Especially important consideration if you plan to use a US carrier overseas
- **Not all SIP Trunks support both local and LD calls – should verify for both domestic and international offers**

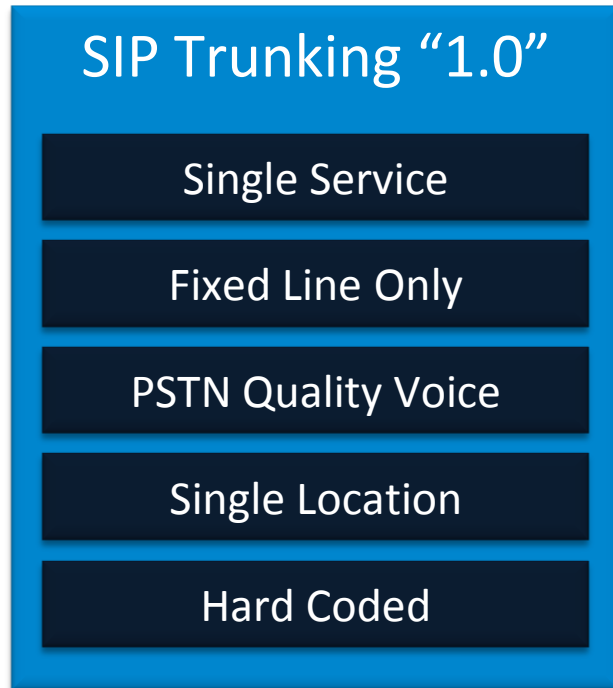
5. Verify SIP Trunk *Service Price* (Part 1)

“Before” SIP Trunk Services	“Before” Pricing Structure	“After” SIP Trunk Services
Analog Lines	MRC	SIP Trunks drastically reduce the need for (or entirely eliminate use of) analog lines
DIDs	Blocks or Per-Unit	May be bundled into price of concurrent call paths (provider-dependent)
Domestic Local & Long Distance Calls	Per-Minute	May be bundled into price of concurrent call paths (provider-dependent)
International Long Distance Calls	Per-Minute	IF US originated international call via PSTN, same price structure as PSTN
T1s and/or PRIs	MRC	Replaced by SIP Trunks, number needed may increase or decrease
Concurrent Call Paths	Not available pre-SIP	On-net calls usually are bundled into price of concurrent call paths, off-net is not

5. Verify *Other* SIP Trunk Costs – (Part 2)

1. Gateway (To non-SIP CPE, between flavors of SIP)
2. Security
3. Network and application performance management
4. SBC can do 1 and 2, and:
 - a. NAT/IP address translation
 - b. Codec conversion
 - c. Bandwidth and QoS enforcement

SIP Trunking Evolution



- **Access Replacement**
- **Cost/Commodity Play**
- **Primary beneficiaries: IT/Telecom Departments**

- **Improves employee and business productivity**
- **Improves customer service & support**
- **Provides Business Productivity Value**

Current and Forecasted Score of US SIP Trunk Services Market (10 Participating Providers)

1= weakest, 10 = strongest idealized score

