

VoIP WAN (Wide Area Needs)

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Jay R. Brandstadter

JRB Consulting

WAN Challenges in Enterprise-Wide VoIP

VoIP Deployment Continues, BUT Enterprise-Wide VoIP is Rare:

- **VoIP is Still Relatively New (re: Legacy Telephony)**
- **QoS & “Data Network Readiness for Voice” Issues**
- **Islands of Pilots and Initial Deployments—mostly focused on line/station-side VoIP not trunking**
- **Multiplicity & Evolution of Technologies & Options**
 - **WAN choices & ownership**
 - **PBX, IP-PBX choices & interoperability**
 - **Wireline vs, Wireless**
- **Migration to Enterprise-Wide VoIP & Unified Communications**

VoIP Wide Area Needs - Corporate

- **Support Employees-Where & How They Work**
 - Enterprise Business Sites of All Sizes in All Places
 - Work@Home or Telecommuter
 - Road and Coffee-Drinking Warriors
- **Provide for Business Continuity and Growth**
 - Redundancy, Disaster Recovery & Continuity of Operations
 - Scalability for Enterprise Growth (and Consolidation)
 - Adaptability to New Requirements and Enhancements
- **Manage & Support Enterprise-Wide VoIP Migration**
 - Provide Controlled Step-Wise Migration Approach
 - Accommodate Multiple Legacy Systems, Vendors & Contracts
 - Accommodate Enterprise Organization & IT Methods

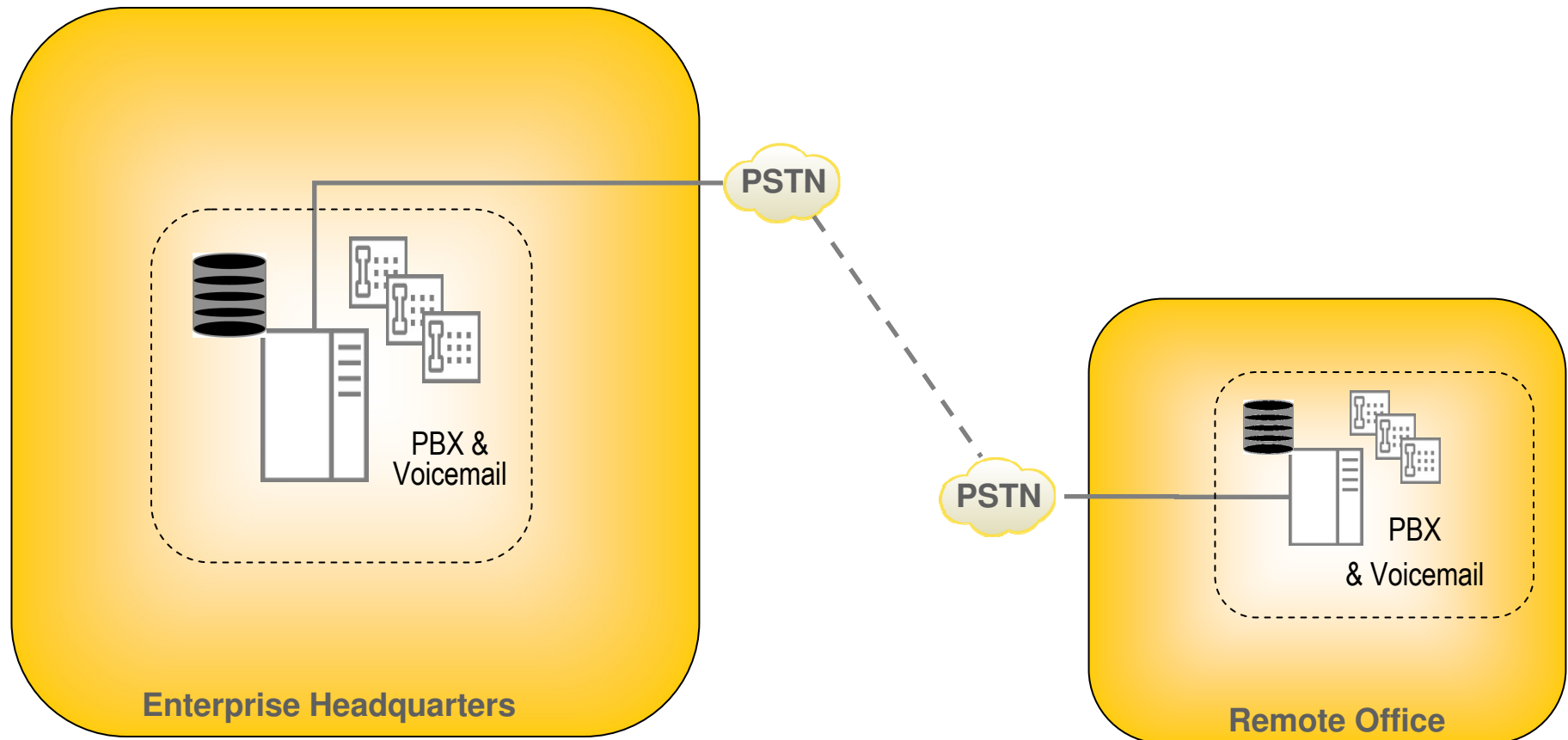
VoIP Wide Area Needs - Technical

- **Target Neutral and Interoperable Infrastructure**
 - Accommodate Numerous Technologies (PBX, IP-PBX, etc.)
 - Maintain Vendor Neutrality and Assure Interoperability
 - Recognize Long Timeframe for Enterprise-Wide Deployment
 - Track and Utilize Key Standards (e.g., SIP)
- **Plan for Enterprise-Wide Operations & Management**
 - Address Handling: Dial Plan, Directory Services, IP/NAT
 - Network Monitoring & Management
 - IT Support (Help Desk, et. al.) and Concept of Operations
- **Support Migration to New Technologies & Apps**
 - Unified Messaging & Unified Communications
 - Wireless, WiFi and F/MC

An Enterprise-Wide VoIP Case Study

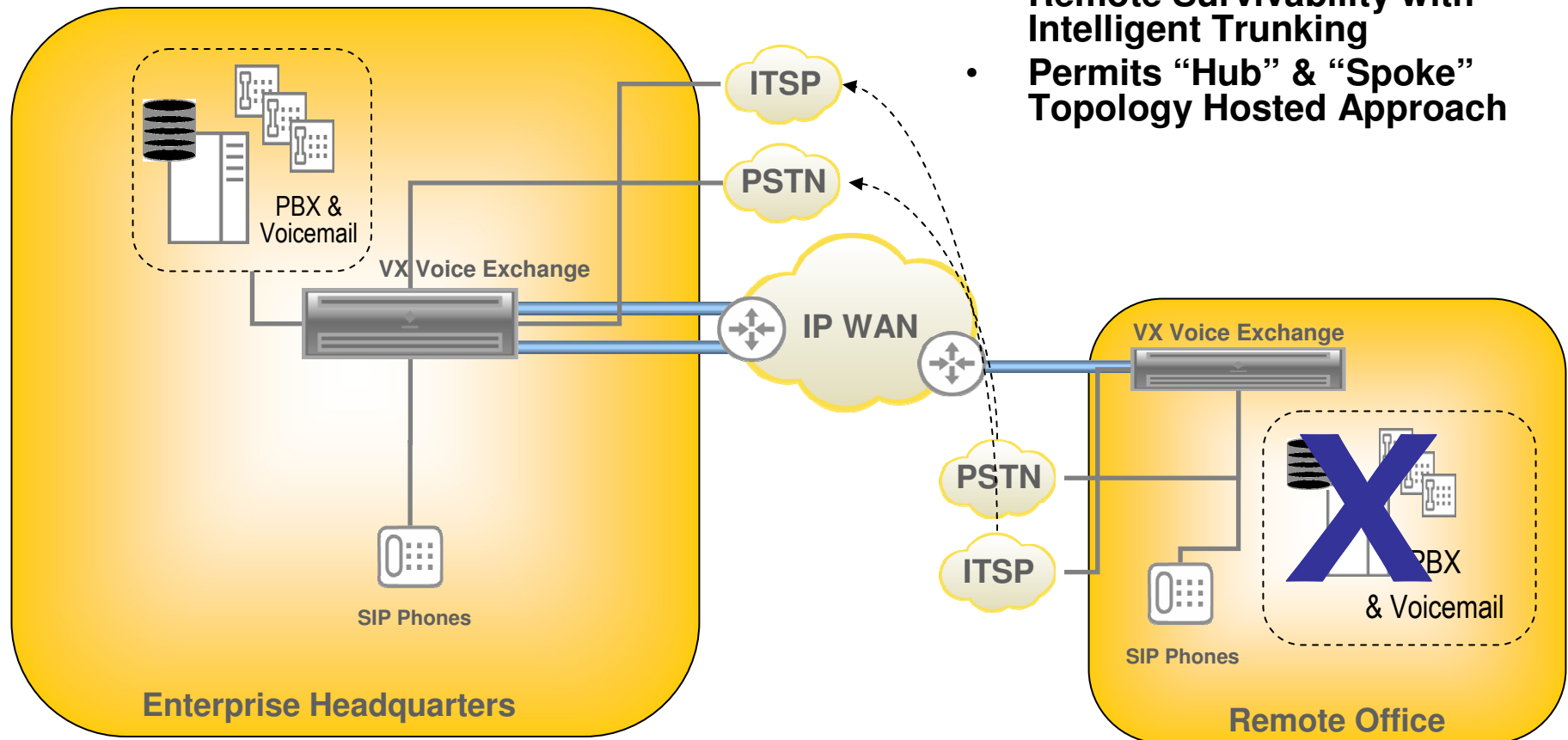
- **A Work-in-Progress**
- **Uses Highly Adaptable NET VoIP Gateways to Aid Migration from Islands of Disparate PBXs to More Consolidated and Manageable Enterprise-Wide Voice Infrastructure**
- **Enterprise is Evolving Further to Microsoft-based Unified Messaging and Unified Communications Architecture**

Legacy PBX Infrastructure



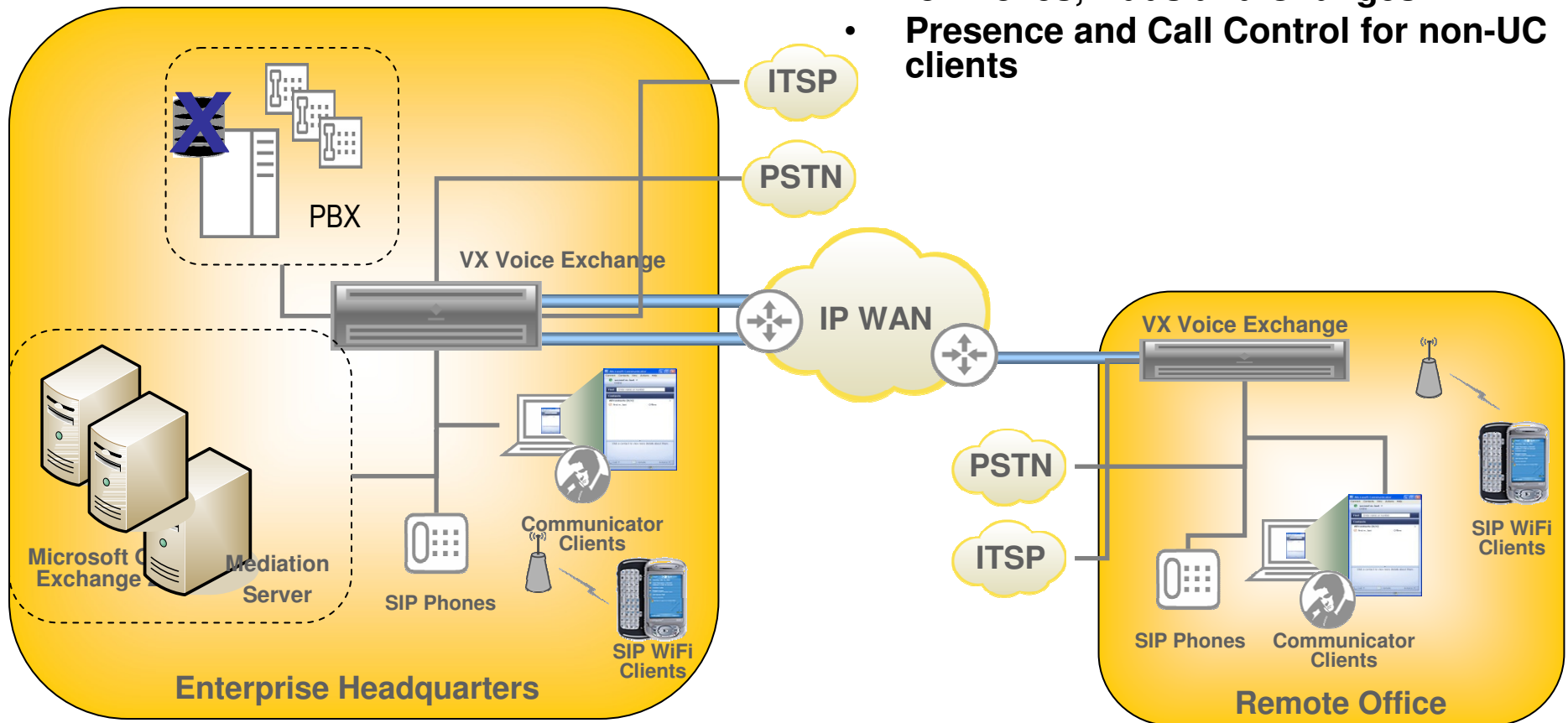
PBX & Voicemail Consolidation

- PSTN Toll Bypass
- Reduced PBX & Voicemail Infrastructure
- Feature Transparency
- Bandwidth Optimization
- Remote Survivability with Intelligent Trunking
- Permits “Hub” & “Spoke” Topology Hosted Approach



Enhanced Microsoft UM & UC Integration

- Telephony Integration for UC & UM
- Voicemail Migration to Exchange UM
- UM Support for SIP/WiFi. Dual Mode Devices and Any PBX
- Active Directory-based Provisioning for Moves, Adds and Changes
- Presence and Call Control for non-UC clients



Case Study: Implications on WAN, UM and UC

- **Consolidated infrastructure**
 - Opportunity to reduce, consolidate & eliminate PBXs/IP-PBXs
 - Consolidate Exchange servers
- **Site Survivability**
 - Ability to provide voice system and UM survivability during WAN outages or congestion
- **Seamless Adoption and Migration to UC**
 - Next generation telephony integration with feature and signal translation enable interoperability with Legacy PBXs and IP-PBXs
 - Allows for affordable, evolutionary migration to UC
 - Presence information can be provided for non-UC devices
 - Enterprise UM can be provided for PBX's and devices that don't have support for it
- **Significant Cell Phone Cost Savings**
 - Enterprise mobility with VoWiFi, enterprise integration & WiFi access provide opportunities for reduced communications costs
- **Security**
 - Call setup and media encryption will be important for security conscious companies

Thank You

j.brand@comcast.net