

Building a Global VOIP Network

Common Challenges

David Stein, Principal
dstein@plannet.net

PlanNet Consulting, LLC



Agenda

- Introductions
- Common Challenges
- Pearls – Lessons Learned



Introductions

PlanNet Consulting, LLC

- Independent communications technology consulting (voice, data, video, audio/visual, security and physical infrastructure)
- Project consulting and managed services
- Interop, IPComm, VoiceCon presentations
- Numerous BCR articles

David Stein

- 25+ years in communications technology
- Managed hundreds of voice and data projects





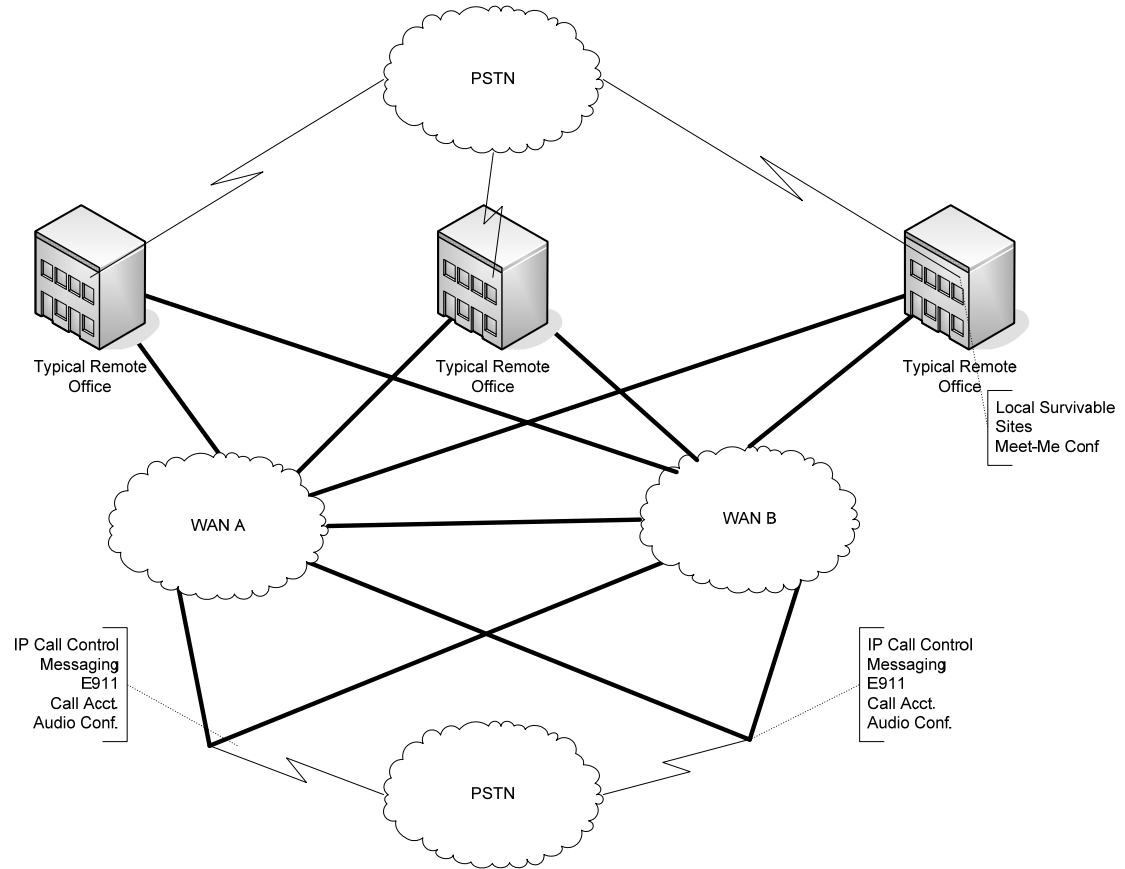
Challenge #1

“We’re just deploying an IP PBX.”

- In fact, you’re providing Voice Services over an IP network.
- User expectations for voice are:
 - High for quality, call completion, and availability
 - Intolerant of problems that interrupt or degrade voice
- Planning voice as a service = better long term solution.
 - You’ll examine your organization differently
 - You’ll communicate differently with the users
 - You’ll look at mgmt requirements with greater clarity



Sample Architecture





Challenge #2

“Our current processes are good enough.”

- Most organizations don't have:
 - Adequate Change Management Processes
 - Appropriate Configuration Management Processes
 - Up-to-Date Documentation
 - Experience with ‘converged organization’
- Small changes to configurations in an IP Telephony environment can have disproportionate impacts
 - Sites in many countries potentially affected
 - Cost of ‘truck roll’ to remediate



Challenge #3

CPE Vendor/Contract Management

- Can you obtain consistent product and support services from your vendor?
- Are you contracted with manufacturer or partner?
- Legacy maintenance contracts?
- Do they have a presence in each theater/country you operate in?
- Standard price and parts list



Vendor #1

- Direct sales & service for 80% of sites
- Expert system support
- Global master agreements with A/P terms & discounts
- Global maintenance contract possible 1Q07
- “Follow the Sun” TAC 4Q06
- End user and admin training
- Dedicated Local PM; local engineering team in US

Vendor #2

- US support by channel
- Int’l support by 3rd parties (different channel partner)
- Strong TAC
- Global sales and service experience
- Global Support 8x5x4
- Software Subscription Services flexibility
- Cutover Helpdesk & App support

Vendor #3

- US support by channel
- Int’l support by 3rd parties (different channel partner)
- Global Support – One #
- Global Purchase & Service Agreement
- New services unit with multi-vendor support
- Software License Transferability more flexible



“What to Manage and How?...”

Challenge #4

- New Architecture is likely to cause a significant change in how you manage the voice services.
- Managing voice as a service requires better tools.
 - Insource vs. Outsource decision
 - In large environments, service monitoring/mgmt tools are key
 - Manufacturer/vendor tools may not be the “best” option. Other excellent 3rd party platforms available.
- Tools solution should assist with:
 - Proactive problem identification
 - Quality of Service management
 - Fault isolation and identification
 - Strong alerting/alarming to notify staff



Challenge #5

“What you don’t know can really hurt you”

- How many parties are responsible for delivering QOS?
- Where are your carrier’s POPs?
 - Hundreds of miles away? (Reliability Issues)
 - Out of Country with local IP peering? (SLA and Reliability)
 - Route Diversity



Challenge #6

“Don’t Forget Local Government Regulations”

- Are there restrictions on Internet access?
- Are there ‘wiretapping /monitoring requirements? (~CALEA or worse)
- Does this place sensitive information at risk?



“It’s a Software Driven Architecture”

Challenge #7

- IP Telephony requires less hardware and more software than traditional TDM systems.
- Software licenses provide protection under copyright, product liability, patent, and trade secret laws.
- License restricts what you can do, where you install, and how long you use it; license transferability may be highly restricted!
- Software licensing requirements may vary



Types of Licenses You May Encounter

Concurrent User: Allows multiple users to share single endpoint (e.g., call center agents in 24x7 operation).

Named User or End User: License assigned to specific user or device (e.g., IP endpoint or voice mail box).

Universal: User License can be administered as either TDM, IP, or SIP.

Designated System License: License assigned to a specific server or servers.

- Licenses are typically “perpetual” as well as non-transferable, non-exclusive etc.



Integration Issues

Challenge #8

- Legacy TDM and new IP-Telephony will likely coexist for a long period of time.
- How will organic growth be handled?
 - Especially important for smaller sites
- How will organizational acquisitions be accommodated?



Pearls

- North American vs. Global Issues
 - T1 circuits may be delivered ‘unframed’ even if ordered ‘framed’ – No problem if you have a CSU/DSU, BIG problem otherwise
 - Control channel on channel 24 of T1, on channel 16 of E1
 - Power
 - Hand off from Implementation to Support