Voice over IP

Issues & Impacts
VoIP is great!

- New features enhance end users productivity
- Provides centralized management for telecom administrators
- Allows link of voice with web servers and database applications
- Combines overhead of voice and data expertise and infrastructure
Why the slow deployment?

- Currently VoIP is more complex to administer than traditional voice
- VoIP has been more expensive to deploy than traditional voice
- Traditional telephony is globally deployed and works well
- Several high-profile VoIP implementation failures among large enterprise adopters
VoIP Challenges

- E 911 - Public Safety
- Security
- Interoperability
- Network Infrastructure Readiness
- Power Requirements
- Network Administration and Staffing
- Organizational Readiness
- Call Quality
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Keeping track of a user within the VoIP network for emergency location information is a challenge.

No standard method of handling E911 in a VoIP environment.
VoIP Security Risks

- Eavesdropping
- Denial-of-Service
- Spam
- Phishing
- Redirect attacks
Interoperability

VoIP is still an emerging technology with:

- New and developing standards
- Changing feature sets
- Competing approaches

Making interoperability a major challenge.
VoIP Network Readiness

Is the network ready to deliver toll-quality voice services?

- Preliminary Data Network Assessment
- Analysis of Voice Traffic Requirements
- Network Health and Capacity Planning
Power

Power over Ethernet (PoE) provides IP phones with power through VoIP enabled Ethernet switches. UPS and/or backup batteries and generators are necessary to maintain dial tone during a power outage.
VoIP Network Administration

- VoIP involves complex applications with high availability and performance requirements
- Implementation usually requires continued support and migration of legacy systems
- Support requires skilled staff
Organizational Readiness

VoIP requires consolidation of IT Management of Voice and Data.

- Unknown territory - VoIP is new to IT organization
- Technology cross training
- Organization restructure requires mandated leadership
Call Quality

Successful VoIP implementations are based on user’s perception of call quality. Expectations are high based on traditional voice service levels.

Inherent characteristics of IP networks cause:

- Echo
- Noise
- Distortion
VoIP

- VoIP has legitimate potential
- Implementations are gaining momentum
- Technology is not yet mature
- Telephone systems are high profile
- VoIP requires careful planning