Response to:

State of Arizona

Telecommunications Executive Governance Committee

Request for:

Interested Party Communications

Dated: July 16, 2003

Nortel Networks

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Executive Summary

There are essentially three areas that must be addressed when migrating an existing telecommunication system to a converged IP Telephony system. These areas include *assessing the need, assessing the network, and assessing the alternatives.*

Assessing the Need

The first question that should be asked is - What do I expect to gain by migrating my system to IP Telephony? There have been some big numbers discussed in the State recently about the tremendous savings potential of Voice over IP. While we believe the magnitude of the savings may have been exaggerated, the fact remains that VoIP does have cost-saving potential in the areas of toll bypass, reduced add/move/change costs, and simplified management. These infrastructure-based savings can be obtained by virtually any VoIP system and they ignore the real strategic business value of IP telephony, specifically, the ability to provide increased efficiency and productivity through enhanced multimedia applications.

Nortel Networks is a leader in the areas of second generation multimedia and integrated IP Telephony solutions and we feel strongly that we are the best positioned vendor to help the State of Arizona realize the true business value of IP Telephony.

Assessing the Network

The next question that should be asked is – Is my data network ready to support IP Telephony? Contrary to what some vendors might say, voice does not "ride for free" on your existing data network. The network must be free of voice-killing impairments and the reliability and availability of the IP network must match the expectations set in the traditional telephony world, specifically 99.999% uptime or approximately 10 minutes of downtime per year. There are also other issues that must be addressed when migrating a telephony system to a data network, including:

- Providing power for IP phones in the event of power outage
- Quality of Service (QoS) must be maintained throughout the network
- Security for remote users/branches and wireless VoIP users

Nortel Networks has provided the State of Arizona with over 99.999% reliability on its existing telephone system (SL-100) for over 10 years and has long foreseen the migration to IP Telephony. We have designed a system which combines all the reliability and availability of your existing systems with all of the benefits of IP Telephony.

Assessing the Alternatives

The next question that should be asked is – How do I migrate my existing telephony system to take advantage of IP Telephony? Unless you buy into the all-or-nothing approach of some data vendors that promote closed, exclusively IP-based systems, you know that ripping everything out and starting over cannot be cost justified. Any migration strategy should be based on open standards and support a multi-vendor environment.

Only Nortel Networks can provide the State of Arizona with all of the business benefits of an IP Telephony system at a fraction of the cost and disruption of our competitors. Our proposed core migration strategy detailed below allows the State to continue using existing assets and move gradually to IP Telephony when and where it makes the most sense.

Migration Strategies

Based on the anticipated benefits of new applications, improved network management, and cost savings, we have identified a three-phase approach to move the State to a converged VoIP telecommunications system. These phases could be started immediately and finished within 6 months of project start.

Phase I ($1.5M) – IP Enablement.

IP Enable Existing Nortel equipment to take advantage of new applications and reduced costs for wiring, moves, adds and changes.

- Phase I software load (MSL17)
- Add 3 IP Client Managers (IPCM) (Supports 3000 IP clients)
- Includes 2000 IP Phones (High-end i2004 model)
- Upgrade Meridian PBX's to Succession Release 3.0

Benefits

- Retain/reuse 90% of capital investment of hardware and software including 14,000+ digital handsets
- Full IP Support (IP phones, applications, IP communications)
- Full Feature Set (400+ features)
- Ability to migrate at your own pace
- Minimal disruption
- Pay as you go as customer/application needs demand
- Existing digital phones can coexist along with new VoIP phones
- Call Centers are not disrupted and can be seamlessly migrated to VoIP as needed

Phase II ($3M) – Network Upgrade

Add IP trunking to provide toll bypass savings, improved network availability, and centralized network management.

- Geographic survivability
- Phase II software load (SE-06)
- IP Gateway controllers (provides IP Trunking)
- IP Spectrum Peripheral Module (SPM - upgraded with improved IP features)
- Upgraded IPCM software (doubles capacity for IP clients)
- 2400 additional IP phones

Benefits

- Geographic survivability via redundant core (also provides alternate path to carrier for enhanced survivability)
- State-wide dial plan (5, 7, or 10 digit dialing)
- Single state-wide voicemail/messaging system
- Centralized network management
- Ability to seamlessly incorporate disparate voice systems into a single network

- Carrier grade reliability (99.999%)
- Ability to support advanced SIP features, such as Succession Multimedia Exchange

Phase III ($700K) – IP Enable RSCs

Add IP capability to the RSCs to provide toll bypass savings, improved network availability, and IP applications.

- Convert 3 existing Remote Switching Centers (RSC's) to Media Gateway 9000's (MG9000's)

Benefits

- Provides enhanced scalability for large remote sites (double capacity)
- Provides total survivability in the unlikely event both core sites lose functionality due to unforeseen disaster
- Lower cost IP connections to host

Summary

Nortel's Evergreen philosophy allows the State to migrate the existing Meridians and SL-100 to our industry-leading Succession platform. This provides a nearly 90% investment protection of the capital already invested in your current voice and data infrastructure, including non-Nortel data products. Nortel can co-exist in a mixed environment and can seamlessly interoperate with your existing QoS-capable IP networks, as evidenced by our recent VoIP product demonstration. Additionally, our solution preserves the rich feature set and extensive application development in the State's current Customer Contact Centers and allows for a smooth transition to IP.

The State of Arizona's current telecommunications model parallels that of a traditional service provider, in both products and business model. Nortel's extensive experience in working with both carriers and with enterprise customers affords us a position to support the State in whichever model it chooses, whether private, managed or network based.

We have developed a business case tool that is accessible via the internet at www.nortelnetworks.com/voip to help our customers identify and quantify savings as a result of moving to VoIP. We welcome the opportunity to assist the State in developing an accurate model of anticipated cost savings from the move to VoIP.