Network Instruments
The State of VoIP Networks

Key Statistics

Implementing VoIP

- 45 percent of organizations have VoIP running on their network.
- Nearly 30 percent of organizations plan to implement VoIP on their network in the next 12 months.
- 32 percent of network engineers lack the ability to monitor VoIP performance with their monitoring systems.
- 61 percent of network engineers have insufficient ability to monitor applications.

VoIP Performance Concerns

The three biggest concerns network engineers have in running VoIP on the network are:
1) Being able to monitor the quality of service (QoS) of the VoIP application.
2) Ensuring the reliability of VoIP applications to perform under heavy use.
3) Ensuring the network can adequately handle the added VoIP traffic.

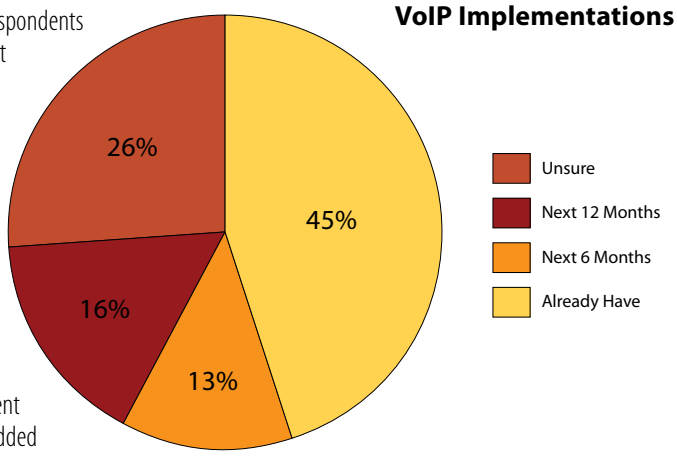
- Nearly 50 percent of network engineers were concerned with their ability to monitor the quality of VoIP service.
- 41 percent were concerned with the ability of their network to handle added VoIP traffic.
- 36 percent of network engineers questioned the ability of their VoIP application to perform under serious business use.

Implications and Analysis

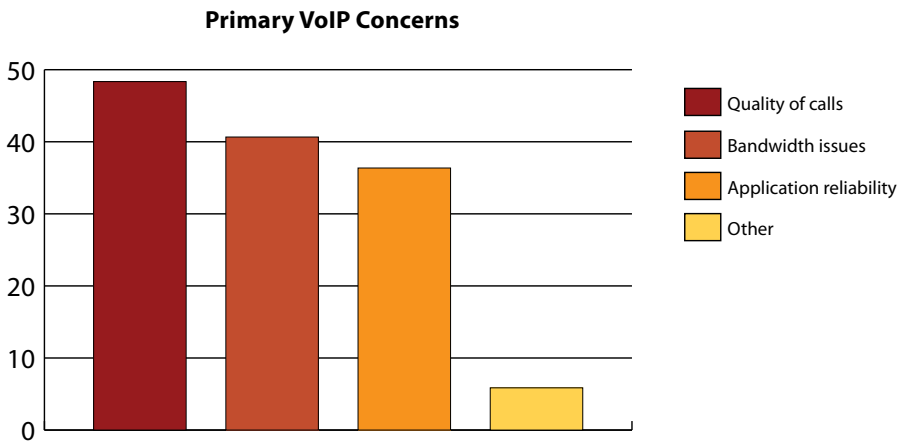
The adoption of VoIP is widespread throughout the United States according to respondents of the survey. As shown in the graph titled **VoIP Implementations**, 45 percent of network engineers indicated they have VoIP running on their network. The adoption of VoIP will continue to increase during 2007 with 30 percent of respondents planning to implement the technology in the next 12 months.

This trend of widespread adoption is interesting in light of the amount of concern expressed by network engineers in whether VoIP applications will perform successfully.

As demonstrated in the graph titled **Primary VoIP Concerns**, the main challenge faced by 48 percent of network engineers was in guaranteeing the quality of VoIP calls on their network. Another significant issue faced by 41 percent of those questioned was in knowing whether their network would handle the added bandwidth demands generated by VoIP. 36 percent of engineers were concerned about the reliability of the application under heavy use.



The uncertainty in the performance ability of VoIP solutions may be due to the lack of VoIP monitoring functionality within most analysis tools. 36 percent of administrators indicated their existing monitoring systems lacked adequate functionality to monitor VoIP performance.



If these respondents were relying on the default testing tools included with the VoIP equipment, this may not be sufficient for successfully testing and managing VoIP. These tools provide minimal insight into VoIP communication running over the network. Beyond limited testing capabilities, default testing tools fail to compare VoIP performance with overall network performance, offering a very limited view for troubleshooting and management purposes.

61 percent of network engineers indicated that their network analysis systems lacked sufficient application monitoring capabilities. This could also explain the high incidence of concern around VoIP and network performance.

Given the interdependence and sensitivity of VoIP to other applications running on the network, having the correct analysis tools is critical. Anytime VoIP must compete with other applications for bandwidth, voice quality can suffer. Ensuring call quality and a positive user experience is the key to a successful implementation and management.

Research Background

The study was conducted by Network Instruments to gauge the attitudes and concerns of network engineers about network performance issues. The survey consisted of 10 questions and focused predominantly on issues encountered with VoIP implementation and management.

The results were compiled from surveys completed by 273 network engineers around the United States between April and December 2006. Surveys were gathered from network technology forums held in the following cities: Los Angeles, San Jose, Seattle, Chicago, Dallas, Minneapolis, New York, Boston, Washington, D.C., San Antonio, Austin, and Las Vegas.

About Network Instruments

Network Instruments provides in-depth network intelligence and continuous network availability through innovative analysis solutions. Enterprise network professionals depend on Network Instruments' Observer product line for unparalleled network visibility to efficiently solve network problems and manage deployments. By combining a powerful management console with high-performance analysis appliances, Observer simplifies problem resolution and optimizes network and application performance. The company continues to lead the industry in ROI with its advanced Distributed Network Analysis (NI-DNA™) architecture, which successfully integrates comprehensive analysis functionality across heterogeneous networks through a single monitoring interface. Network Instruments is headquartered in Minneapolis with sales offices worldwide and distributors in over 50 countries. For more information about the company, products, technology, NI-DNA, becoming a partner, and NI University please visit www.networkinstruments.com.