

Hype or Reality?

The leading buzzword for the past few years has been Voice over IP (VoIP). VoIP can be described as the ability to make telephone calls and send faxes over IP-based data networks with a suitable Quality of Service (QoS). The voice information is sent in digital form using discrete packets rather than via dedicated connections as in the circuit-switched Public Switch Telephone Network (PSTN). Organization around the world are embracing this technology, and its use is expected to continue growing. Despite the growth of VoIP, there are pitfalls you need to be aware of to ensure that the technology performs adequately.

The Network Assessment

Rolling out VoIP requires planning, planning and more planning. During the early stages of a VoIP project, a network assessment needs to be performed to ensure that the existing network infrastructure can handle the increased traffic VoIP will produce. It is also important to ensure that call quality will not be compromised by network issues. The network assessment includes:

1. Developing Physical and Logical network diagrams for both the data and voice network.
2. Determining types and speeds of existing network links.
3. Calculating utilization on existing network links and delay over WAN links.
4. What network equipment is installed and does it support Quality of Service (QoS)?
5. What protocols are being used on the network?
6. How does existing data and voice traffic traverse the network?
7. Decide what the expected voice quality should be.

Installing a VoIP Solution

Once the decision is made to install a VoIP solution, a rollout plan needs to be developed. Will it be a phased implementation, or will the entire system need to be cut-over at one time? In either case, a Project Manager is essential to ensure that the installation is a success. The vendor providing the VoIP hardware will handle the technical configuration and setup, but having a Project Manager handle the coordination issues between the vendor, equipment manufacturer, local telco, end user's, etc. can ease some of the headaches associated with any large technology rollout. It will also allow your internal staff to concentrate on learning the new system, or focusing on day-to-day issues.

After the Installation

Once the installation is complete, it is important to assess the network again to ensure that network traffic is being handled appropriately. Specifically, network utilization statistics need to be gathered and monitored. Also, call quality needs to be assessed to ensure that calls are clear and do not contain delay, echo, or jitter. Updated physical and logical diagrams, and other documentation, are also essential at the conclusion of the project. Finally, WAN links need to be analyzed to verify that bandwidth allocation is adequate.