Management Update: Deploying Enterprise VoIP Is a Question of When, Not Whether

The transition to enterprise IP (Internet Protocol) telephony is happening, but most organizations can’t justify the move based solely on cost. They’re more likely to see benefits from software applications that the technology will enable.

Rapid Growth of IP Telephony

The rapid growth of enterprise IP telephony has caught many IT and telecommunications managers by surprise. How could a seemingly new technology capture such widespread interest and transform the enterprise communications market in such a short time? The appearance of this new product category has led to real questions about the likely endurance of IP telephony, the costs associated with purchasing and managing these systems, and best practices regarding their implementation and management.

Voice Over Packet Network

At its most basic, voice over packet network (VoPN), or the simple “packetizing” of voice conversations for transport over data networks, has been widely used by carriers for transporting communications over long distances since the early 1990s. But if the concept of VoPN is not new, then transport over IP-routed networks certainly is, and this is the form seen in enterprise implementations of LAN-based voice. VoPNs differ significantly from the simple, packetized voice first deployed in the carrier networks, and this new routed IP environment introduces new complexities in the form of the management of that traffic, especially in terms of quality of service and aggressive real-time monitoring.

Voice Over IP

Businesses began experimenting with enterprise voice over IP (VoIP) in the late 1990s, and best practices began emerging soon afterward in the management of these environments. By 2003, more than 45 percent of all North American enterprise PBX line shipments were capable of supporting IP telephony, and Gartner expects this percentage to reach 97 percent by 2007. However, the handsets attached to these systems will convert much more slowly, reflecting companies’ preference
to stage a slow migration to IP rather than a fast cutover (see Figure 6 and see Figure 7). Similar trends can be seen in all other regions.

What does this mean to customers of traditional systems? Vendors are unlikely to continue introducing significant enhancements on the older time-division-multiplexing (TDM)-based systems. To date, no major vendors have announced end-of-life for their traditional architecture, but Gartner expects that the first such announcements will be made before the end of 2005.

**New Applications Offer New Benefits**

The original arguments for deploying network-based voice were based on cost savings alone, usually focusing on toll bypass and streamlined administration and management. Unfortunately, few organizations could find sufficient cost savings to overcome the additional spending typically required to upgrade the underlying network. For most organizations, justification would have to come through a combination of operational savings as well as the increased business value of an improved communications environment. As long as the products offered only dial tone, there was little opportunity for added value.

Vendors have recently begun delivering new applications designed to increase the value of an IP telephony implementation, with functionality that is not available in a traditional TDM environment. Examples include presence awareness and collaboration tools from Mitel (Your Assistant), Siemens (OpenScape) and Nortel Networks (Converged Desktop), each of which performs functions far beyond dial tone and increases employee productivity, albeit in a small measure. Additional value will also be delivered through targeted applications designed for specific vertical markets. Examples include products from Vertical Networks (MultiSite Reporter for retail), Mitel (Tele-Call for healthcare) and Avaya (IP Office for education).

As more such layered applications, or unified communications applications, become available, companies will see more opportunities for IP telephony to enhance business processes or boost employee productivity. These incremental benefits, combined with operational cost savings, will enable most organizations to create a credible business case for converting their communications systems to IP.

**Trend Toward Value-Added Layered Applications**

This trend toward value-added layered applications is unmistakable. Companies should expect the next three years to bring a broad array of communications applications from all of the major vendors, enabling a business justification for IP telephony to consider the new system on the basis of more than simply a replacement for the existent PBX or key system. However, because those new applications are not yet available, most business cases today should not be expected to include hard dollar improvements in operating efficiencies. Instead, companies should take one of the following approaches to constructing a business case for IP telephony:

- Demonstrate clear operational savings because of centralized management or other explicit improvements that outweigh the cost of new equipment and infrastructure upgrades, and therefore replace existent PBXs with IP telephony servers.

- Begin converting communications infrastructures only as required to support growth or replace aging systems, ensuring that any new systems will be able to support IP when you eventually build a business justification for conversion.

- Delay all explicit investment in the telephony infrastructure until a business justification exists, and instead begin enhancing the underlying network to support a future IP environment.
In each case, the first task must be an assessment of the LAN environment; actual conversion to IP telephony, though, could be delayed for several years. Until an organization can build a solid business justification for converting, there is no reason to replace a well-functioning traditional phone system.

**Telephony Is Moving to IP**

The trend is unmistakable: Telephony is moving to IP, and businesses will see increasing justification to embrace IP for voice communications through 2007. However, following this trend for its own sake would be a bad business decision. Instead, ensure that every enterprise infrastructure investment has an eye on communications convergence, so that the eventual conversion is smooth.

Your organization will eventually use an IP telephony system. It's not like choosing between a gas oven or an electric oven in your home, where you can base your choice on personal preferences; this is more akin to the switch from gas lamps to electric light bulbs — as soon as the world changes, there is no going back. But you can control the timing and speed of that conversion, and these efforts should be based on the unique needs of your organization.

**Bottom Line**

- If your time-division-multiplexing-based system remains healthy and serves your needs, there is no reason to change your communications server.

- However, remember that you will eventually deploy IP telephony, so the choice becomes whether to begin staging your migration sooner, or opt for a complete replacement later.

- If you anticipate replacing or upgrading your system within a few years, base the timing on delivered business value.

- And if you are currently shopping for a new voice server, do not buy anything unless you are sure it will get you to IP.

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