

COST SAVINGS
plus converged network
efficiencies make for an
attractive case – even
in a sluggish economy.
>>>



A CASE FOR VoIP



The benefits of Voice over Internet Protocol (VoIP) technology have long been known – lower equipment and maintenance costs and, by virtue of combining voice and data over a single network, simplified network management. Nonetheless, large enterprises have been slower to adopt the technology than smaller businesses. In 2009, VoIP penetration among U.S. business was 42 percent; according to market research firm In-Stat. Industry experts say there are several reasons for the relatively slow adoption – especially among large businesses.

“Telephony has traditionally been held to a standard of five nines uptime – basically, 10 minutes of downtime per year – as well as having a very high level of voice quality,” says Hyoun Park, telecom and unified communications research analyst at Aberdeen Group.

“There have been concerns in telecom departments about the ability to provide both of those metrics through voice over IP,” he says. “In addition, companies also worry about moving from a proprietary voice network, that is particular to just

carrying voice, to a converged network where voice becomes an application.”

Larger firms have also succumbed to the misconception that they must totally abandon current phone assets to adopt the new technology. Businesses with large telecom systems have made significant investments, so their turnover rate is likely to be much slower,” says Jeff Ridley, director of product management at ShoreTel. And companies typically don’t even start looking at VoIP until their circuit-switched Public Branch Exchange (PBX) system becomes cost prohibitive due to repairs and workarounds.

Still, eventually every business will have to replace its legacy telecom system. And VoIP offers significant benefits to business. The question is the best way to effectively integrate converged voice and data networks into a firm’s existing processes and systems.

Making the Transition

Combining voice and data networks is hardly news. Yet, some organizations remain tied to PBX systems that

are nearing their “sell by” date. As communication technologies continue to mature, finding the right migration path will not only save time and money, but also make a workforce more productive.

Park notes that one of the biggest challenges large businesses face is knowing when to upgrade their telecom equipment. Legacy equipment was built to last for several years. However, companies don’t want to be forced into replacing an entire system because it’s at the end of its life.

“The biggest questions tend to be around how long the business can still support the equipment,” Park adds. “This is especially true as product models are no longer available and vendors stop providing much needed product support.”

Driving Factor: Cost

Cost is the primary reason that most companies switch to one single network for voice and data. “The benefits of combining voice and data infrastructure are that you’re managing one network,” says Manfred Arndt, HP distinguished technologist, UC and convergence

solutions. “Here businesses realize the cost reductions associated with simplifying systems.”

In general there can be some false economics coming into play. “Some companies are just now starting to realize if a legacy phone system is expected to last for 10 years, and they’re on year number eight, the maintenance cost of those legacy systems can prove to be fairly high,” Ridley says.

“We are seeing more analysis and investigation of that,” he adds. “The first thing is to look at what it costs to maintain the old system. In some cases, you’ll find it’s economically prohibitive to keep the old system compared with new technology.”

Often vendors offer businesses online tools to help compare telephony upgrade costs versus maintaining the status quo. For example, ShoreTel provides a total cost of ownership (TCO) tool to compare the five-year costs of maintaining a legacy system and upgrading to VoIP, Ridley adds.

“We allow IT decision-makers to make an explicit comparison between maintaining their legacy system over the next five years,” he says. “This will include certain amounts of upgrades, ongoing support and maintenance costs – versus the installation of a new IP system.”

The Business Case

The reasons for businesses to adopt VoIP continue to grow. “Today, companies can get better voice quality with VoIP than is available on the PSTN [public switched telephone network],” says Patrick Ferriter, senior director of product management at Polycom. “And being based on open standards, high-definition (HD) voice leverages SIP [Session Initiation Protocol] and G.722 so it is compatible with many other vendors’ endpoints and call control servers.”

Once a business has determined that VoIP is the more cost-effective approach, it’s time to make a detailed

plan regarding what kind of system to implement. VoIP can encompass everything from simple voice gateways to full-fledged unified communications.

Rather than make the decision from a technological standpoint, Ridley recommends analyzing business communication needs. The idea is to design a system that meets those requirements.

“The first thing that IT chiefs need to know as they look at this migration is what their business is about and who are the business decision-makers,” Ridley explains. “Go out and interview the sales leaders, business development, the contact center, the marketing department and more.

“It’s important to understand the role they’re playing in the business, the bottlenecks and the places where their natural flow of business is being impaired because of communication problems,” he adds. “Those communication issues can affect everything from customer service to internal processes.”

Keep in mind, it’s not just how many phones a company has in the building. It’s a solutions-oriented approach.

“Don’t start with how many salespeople you have,” Ridley adds. “Start with how many people are mobile. How do you reach those people when they’re mobile? How do they contact their customers? When you change the conversation, you change the value you give customers.”

More companies are finding that mobility is a key driver for implementing VoIP. “For more businesses, it’s about keeping people connected and communicating when they’re in the office, when they’re away from their desk running around the building, when they’re working from home and when they’re traveling or in an airport,” Ridley says.

The next step is to perform a network assessment. Rolling out VoIP without conducting the appropriate internal assessments and predeployment testing usually results in unplanned downtime and poor service quality.

Some telephony vendors provide a readiness assessment that looks at the network to further assure VoIP readiness. The assessment typically talks about things like quality of service and prioritization in terms of readying that network to make the change.

And there’s one step that organizations ignore too frequently: training. “You want to get administrators comfortable and ready with the system, and get some kind of training for the end users,” Ridley says.

“People are going from their old ways of communicating to new ways of communicating,” he adds. “It might be fairly straightforward to do, but the reassurance of training is really valuable in getting them to embrace and truly leverage what’s going on.”

Upgrading in Phases

In most cases, a phased implementation toward IP convergence is the best approach to upgrade or replace legacy PBX systems. “If a company has a traditional circuit-switched or digital PBX or analog Centrex service, the first step is to migrate to a hosted IP-based service for telephony or to deploy an IP PBX,” says Polycom’s Ferriter.

Today the same IP telephony and rich business applications can be delivered via a premise-based solution – IP PBX – or a solution deployed in the cloud – hosted IP. The IP PBX is a business telephone system designed to deliver voice or video over a data network and interoperate with the normal PSTN.

In addition, it is important for the business to deploy an IP PBX or a hosted service that is based on open standards. The leading open standard for IP telephony and control of multimedia sessions is SIP. This provides the most flexibility and choice for the business in terms of device selection and service options.

“The migration path for those companies that are still running older systems can include using assets they already have,” says Ajay Kapoor, vice president of customer services at



Avaya. "They then migrate to the IP that's going to provide the best business case."

IP convergence can happen in three places within a business communications network: from the service provider to the enterprise to the PBX, from the PBX to the end user. And, in some cases, legacy systems can be upgraded without massive infrastructure changes.

"The baseline value that a business can derive is significant cost savings through the use of SIP trunking – replacing traditional telephony – to a service provider," says Ferriter. The business can also save on the costs of all calls between sites or between remote or home workers.

CDW Unified Communications Assessment Assists with IP Convergence

Let our Cisco services team assess your current Cisco UC environment and recommend how to increase the efficiency and value of your unified communications technology.

However, there are variables to consider including looking at how robust the existing data infrastructure is. And, how old the existing PBX is as well as what function it serves. If voice is a more mission-critical application for a company than e-mail, that fact needs to be considered when migrating over to the next-generation IP telephony set.

"There are a lot of financial organizations that have very unique applications ingrained in their business process. To transition that is no easy task," says Tom Puorro, senior director of product management at Cisco. "So it's always good to fully understand how the business is using telephony as a converged application and where those dollars will be saved versus spent."

Benefits of IP Convergence

For those organizations that have PBXs that are no longer serviceable or are beyond warranty, is it best to keep or upgrade them? "A business is going to spend more by not upgrading," Kapoor says. "The cost of not moving is more expensive than moving when the firm considers carrier pricing."

In addition, worker productivity can suffer if the business is not enabling employees to be connected by their mobile phone and desk phone. "Any day they don't upgrade, they're spending money on mobile carriers, staff and power," Kapoor adds. An upgrade will allow a company to start banking those savings quickly.

Since VoIP can be integrated with other business applications, such as customer relationship management or CRM (allowing for better customer service), and unified communications, employees can interact seamlessly across various devices including voice, e-mail, instant messaging (IM) and video conferencing.

"If users want these types of applications for their business, it is much less expensive to implement on a converged network than through specialized adapters to allow this with a legacy PBX," says Ferriter.

With an integrated network, users can have the option to seamlessly escalate media, for example, moving from an IM conversation to a voice conversation and then to a video call. This provides the maximum flexibility for the user and assures maximum productivity.

"There are efficiencies to be gained by consolidating people and a knowledge base," Puorro says. "You can cross-train staff for economies of scale and offer efficiencies for employees and management."

With IP converged networks, it doesn't matter where employees are physically located. The network can be managed holistically and securely because it's more robust and tightly integrated. In general, consolidated devices are easier to manage. ■

THREE THINGS YOU SHOULD KNOW ABOUT VoIP

Before making the transition to Voice over Internet Protocol, consider the following issues. Otherwise, companies risk implementing a system that's less cost-effective and more time consuming for the IT department.

1. Know your company's needs.

Don't implement new technology for technology's sake. Instead, understand the communication challenges needed to solve and develop a solution that serves those needs. For example, if customer service representatives have a hard time tracking down subject matter experts, you may want to consider implementing a unified communications platform that includes presence status.

2. Know your network capacity.

Because you're putting voice traffic on the data network, it's crucial to know whether the network can handle the increased traffic while maintaining quality of service. Conduct a network assessment with your VoIP vendor partner or reseller.

3. Know your trunking needs.

After the network assessment, you'll need to decide whether to use legacy ISDN trunking or Session Initiation Protocol (SIP) trunking to connect the telecom system to the public switched telephone network (PSTN). SIP trunking uses the data network, which simplifies administration, lowers costs and makes it easier to scale as needs dictate. Although ISDN trunking is reliable, it's likely to be phased out as more organizations move to VoIP systems.

Let CDW help consolidate multiple communication networks into a single, unified system to enable more effective communication and collaboration.