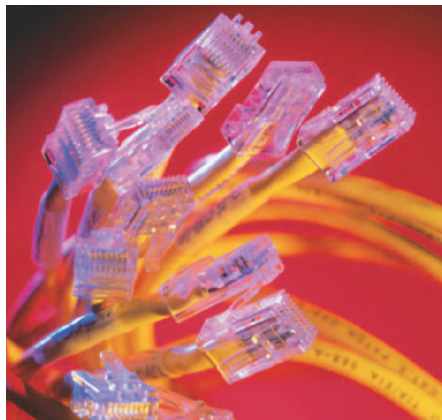


# Is It Time You Considered VoIP?

Linda Dailey Paulson

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**A growing number of mid-size and small businesses are looking into VoIP. But it's for more than just avoiding long-distance toll costs.**

phones, fax machines, PCs with Internet connections, personal digital assistants, laptops with wireless Internet connections, and cellular telephones.

Given the proliferation of devices, is it any surprise that executives and IT managers are now looking for ways to unify and manage these devices?

That's why many enterprises are scrutinizing voice over IP (VoIP) telephony in the enterprise.

## FORGET THE PAST

A few years ago, using the Internet to make a telephone call was a novelty. Attitudes and technology alike have changed, making the technology more real and less hype.

According to George Goodall, research analyst for Info-Tech, he and other analysts are "seeing adoption [of VoIP] a lot more quickly than we thought." Info-Tech's January 2005 survey of clients—primarily North American and Western European mid-tier firms with less than \$2 billion in revenue—found 23 percent of respondents have made some form of investment in VoIP. Another 16 percent plan to make investments within the 2005 calendar year, and another 24 percent said they would be making investments in VoIP within the next three years.

In a recent study of 1,000 North American and Western European firms, Forrester Research found that 45 percent of those companies don't have any plans to fully move to VoIP. About 4 percent said they had adopted VoIP to the extent they intended. By the end of 2008, Forrester projects that 40 percent of firms will adopt some form of VoIP.

Goodall says VoIP has suffered from the idea that its main value is as a toll-bypassing tech-

nology. In most areas of North America and Western Europe, this isn't a big driver for enterprises—and especially so for companies in which voice service is the "lifeblood of sales," he says.

What's stalling adoption? Corporate telcom budgets are only growing at 50 percent of the rate of general IT budgets, according to Forrester. VoIP is not on the top-five lists of most CIOs because other projects have priority.

## GOING MAINSTREAM

Still, vendors characterize business as good. Nortel, for example, is helping a European carrier with 120 sites move its 20,000 contact center agents to IP telephony. Tony Rybczynski, director of strategic enterprise technologies at Nortel and a senior member of IEEE, says the serious interest of this and other sophisticated customers demonstrates this technology's maturation.

Alex Hadden-Boyd, director of marketing for Cisco, says she considers IP telephony to have entered the mainstream. "In fact, it will be very difficult to buy anything except IP telephony in the future. While it started with universities, state and local government, and large financial institutions, IP telephony is now being deployed in all industries of all sizes, worldwide, from companies with as few as 15 employees to companies with tens of thousands of employees." She says that

among Cisco's customers, more than 60 of them have 5,000 or more IP telephones.

And these vendors practice what they preach: Several of the sources interviewed for this article noted that they were using IP telephones. About two-thirds of Nortel employees, for example, have IP telephones. Rybczynski said it shows "a vendor eating its own [brand of] dog food—we certainly do that."

As an inkling of how VoIP is fairing in the market, Hadden-Boyd says between 35 and 50 percent of phone system shipments to enterprise, and small and mid-sized businesses, are IP-based. She says "Cisco's IP phone sales are a good indicator of the velocity. We have now shipped more than 5 million IP phones." To put this into context, she says it was more than three-and-a-half years before the company shipped its first million IP telephones compared to five months to ship its fifth million. She adds that "Cisco is now displacing more than

10,000 traditional phones every business day."

"Of the vast majority—90 percent—of new installations for telephony, IP telephony is part of the answer, not the whole," Rybczynski says. He says this shift has pushed VoIP to a "different point on the acceptance curve." He also says companies are adopting the technology for "lots of reasons—more than just making a phone call."

"IP telephony gives a lot of flexibility," says Rybczynski. "It virtualizes the telephony environment." Typically, a switch would reside in one room and the devices—telephones and Internet connection—would connect to that switch via a tangle of wires. VoIP, in contrast, permits the user to be anywhere and IT personnel to remotely allocate resources.

#### GETTING IT RIGHT

For IT professionals and executives considering a move to IP, the experts have some detailed advice. First, don't

sideline the idea because your organization is small. Experts say organizations of all sizes are at least looking at IP, if not already beginning to implement it in some fashion. Hadden-Boyd says their customers range from those augmenting voice services to those undertaking complete overhauls of their voice networks from PBX to phones with a converged, unified system. "Every customer wants to move at their own pace," she says, "and the technology accommodates that need."

Nortel's Rybczynski says that using IP telephony as a "straight replacement for telephony has value, but it's limited." This is especially true in enterprises where telephone service works well. Rather, he says VoIP can be a "launch pad for unified communication."

Rybczynski says that used with the Session Initiation Protocol (SIP), IP telephony gives users a media-agnostic signal that various devices can use to set up sessions and negotiate what

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capabilities those sessions will have, whether it's videoconferencing or application sharing. What device the other party is using really doesn't matter. It could be a Blackberry or a PC. "This is largely why people are moving to IP telephony. They see it as a first step to collaborating better." One client example he gives is an investment bank that uses the technology to help close deals.

IT departments considering VoIP anew will find more vendor choices and more permutations for implementing the technology. These are great starting points, but what is most important at the outset of any such project is to fully determine the process for implementation from design to testing and validation, says Lisa Pierce, vice president of telecommunications research at Forrester Research. "It's a major change that takes a huge amount of time," she says. "And it's anything but inexpensive very often. There's still a lot of work to be done."

Goodall and others point to Cisco and Avaya as leading vendors in the market. Numerous smaller vendors exist, but they must carve out their own specialty niches for smaller implementations. These include hardware vendors and service providers.

### Reliable network is key

Nortel's Rybczynski says the key piece that must be in place is the IP network. It has to be very solid and very reliable, he says. More importantly, it has to be able to handle voice traffic or meet the requirements necessary to prioritize voice over other types of traffic.

Ted Wallingford, network architect and author of *Switching to VoIP* (O'Reilly, 2005), said he wrote the book because he himself wanted a guide, an "objective opinion on how to spend my 500 grand." He says vendor credibility has helped shape the market for VoIP.

Compared to three or more years ago when bugs and drop outs were

common, network administrators "have learned how to build the infrastructure to support voice," he says. "They were building their systems and protocols, their network infrastructure, with the idea that best effort was good enough." Not so for voice, where even a brief delay can cause problems in a conversation. "The difference between the traditional public telephony—that network—versus VoIP is that quality of service is intrinsic in the old network." In the plain-old telephone system (POTS), if you have congestion, you get a busy signal; the network denies service rather than reducing the level of service. That's not so with VoIP.

One important aspect relates to VoIP's distributed, virtual nature: If an enterprise builds remote, redundant systems, VoIP can provide business continuity during natural disasters. This is particularly of interest to businesses where telephone contact is considered mission critical,


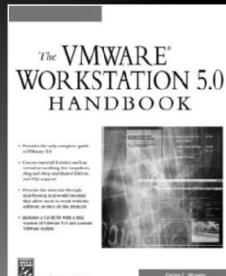
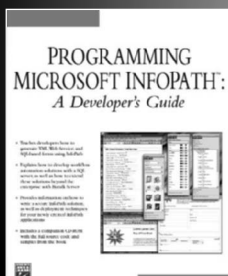
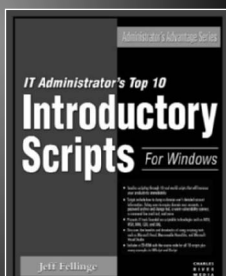
such as contact centers. Rybczynski says one of his clients is a California university, which has such a plan in place in the event of an earthquake. "The distributed ability to virtualize eliminates that risk," he says, of ever being without telephone service.


### Consider outsourcing

Some organizations are looking to managed and/or hosted services for IP telephony. This might include network services such as virtual private networks or telephony services, specifically PBX or contact centers (using toll-free 800 numbers in the US). Many major vendors offer varying combinations of these services in this space; they include household names such as Nortel, BT, and Cable & Wireless.

Pierce says that the implementation process is "often very tricky." IT departments can forge ahead thinking they have all the tools and expertise to launch VoIP, but they fall short.

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This is most evident, says Pierce, in the user experience where training and satisfaction are make-or-break points in the implementation's success.

For these reasons, say many analysts, IT departments might prefer a managed solution. Organizations might also find that a mix of in-house expertise with outsourcing works well. Still, IT managers have critical questions to ask vendors about the skill level of their staff, the capability of the organization's existing network, and user satisfaction.

"These are not little nitpick-type questions," says Pierce. "Companies have to take the time to do really good architectural and organizational assessments. That means the adoption of VoIP can't proceed at a rapid pace."

Goodall says that like any other factor, IT staffs should fully assess the cost versus risk when considering implementing IP telephony. He says it can, however, "be difficult to quan-

tify costs. There is also this desire to trade-in the devil you don't know for the devil you do know."

Wallingford suggests the key to a successful implementation is "a good solid understanding of IP, first and foremost." IT should be looking at VoIP as an application, not as a network, he says. "You can't outsource a network. You can outsource an application. That's a huge shift."

He and others say that looking at VoIP in this way frees IT departments to use the application in ways that make the most sense both technology wise and money wise. This could mean outsourcing toll bypass to companies like Packet8 or Vonage, or implementing an IP PBX in-house with the assistance of a telco like SBC or Verizon.

"Using inside staff to support a private telecom network for the enterprise is not an idea most companies are going to swallow very easily," says Wallingford. "Regardless of whether it's in-house or out-of-house, the benefits are still clear when voice becomes an application running on IP just like any other application. That's the real driver of voice over IP right now," he says. Providing connectivity for remote users and services to call centers are two other prime drivers, says Nortel.

Pierce is convinced that the technology is still very much in its awkward adolescent years and is recovering from being overhyped. "The reality is things are coming home to roost. Even the most ardent advocates are having to come back and face reality a little," she says. Adoption of this particular technology, she says "has a very long tail." Companies must look at the costs of data circuits and voice service. Although this might be higher in other global regions, North American enterprises might be satisfied with the

status quo.

The move to IP, say analysts and experts, is part of a larger trend toward the creation of customized, unified messaging networks. These will be able to accommodate traffic for voice, video, messaging, and collaborative communications such as teleconferencing.

"We see all these mergings," says Hadden-Boyd, "with IP communications and emerging open standards, like SIP, that will be possible. ... Organizations and users will have choice and control over their experience, and their customers' experiences," she says.

Goodall says the future for VoIP looks bright. "One of the things we're seeing is it's really being driven by the organic growth within organizations." But he adds that uncertainty in the regulatory environment is only serving to fuel investments in VoIP. These regulations also vary by country.

"Within the four walls of an organization, the regulatory environment doesn't apply. Once VoIP comes into conflict with existing telephony," he says, "that's where there's a lot of uncertainty about what the regulations are now and what the regulations will be in the next five years."

Despite these factors, Cisco's Hadden-Boyd says in 10 years, "you will be hard pressed to find a communications system that is not running over IP." ■

*Linda Dailey Paulson is a freelance technology writer based in Ventura, California. Contact her at [ldpaulson@yahoo.com](mailto:ldpaulson@yahoo.com).*

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