The Growing Voice of IP Telephony

The convergence of voice, video and data over a unified IP network reduces costs and complexity, and boosts productivity and customer service capabilities.

Coming Soon! VoIP Podcast

Right now more than one-third of large organizations in North America are using IP telephony. Find out if it’s right for your business.

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When IP telephony burst onto the scene in the late 1990s, it promised a new era of cost savings and convenience. Today, consumers use the Internet to save money on long distance calls. Services like Skype and Vonage have emerged as major players in the long distance marketplace.

Yet, for businesses, IP communications represents an entirely different value proposition. The convergence of voice, video and data over a unified IP network cuts costs, but it also provides a far more efficient way to manage communications.

A converged network provides a foundation for new applications and creates new ways to interact. It also streamlines administrative IT functions and consolidates systems. “The move from PBX (Private Branch Exchange) to IP is well underway and it shows no signs of slowing down,” says Matthias Machowinski, directing analyst for enterprise voice and data at Infonetics Research, Woburn, Mass.

According to Infonetics, worldwide sales of IP PBX systems surged by 18 percent from 2005 to 2006 while traditional TDM (Time Division Multiplexing) PBX phone systems dropped by 22 percent. Already, more than a one-third of large organizations in North America are using IP telephony, Machowinski says.

What makes IP telephony and the broader world of IP communications so attractive — and powerful — is its ability to radically change the way organizations interact. “It creates new possibilities and new opportunities,” observes Aaron Vance, a senior analyst at Synergy Research Group (SRG), a Scottsdale, Arizona-based consulting firm.

Among the benefits: employees can receive voicemail, e-mail and faxes in a single unified inbox, and they can plug their phones into any network outlet and automatically have calls routed to them (and their voicemail will follow as well), and organizations can simplify and streamline contact center operations.

To be sure, a growing number of organizations are putting IP communications to work. They’re finding that today’s solutions offer a flexible and scalable way to manage a communications infrastructure.

“Just about every company is already using Voice over IP [VoIP] or plans to use it,” says Irwin Lazar, principal research analyst for Nemertes Research, a Mokena, Ill. consultancy. “The challenge is to put the right systems in place and use the technology to maximum advantage. There are issues and obstacles related to using it effectively.”

Talk is Cheap

For decades, companies have relied on public branch exchange systems (PBX) using conventional copper telephone lines to place phone calls across the building or around the world. These systems have gained a high degree of reliability and become a mainstay for the corporate world.

But when the Internet and IP communications came along, an entirely new way to communicate was born. Suddenly, organizations could send voice over a data network. With an IP phone on either end, or a PBX gateway that adapts the signal for use with a conventional phone, VoIP emerged as a viable option.

IP telephony offers several key advantages over conventional PBX service. First, it’s possible for an employee to plug in a phone at any network node — or even from a notebook computer while traveling — and have calls routed to the phone. No longer must a network administrator reprogram the PBX every time an employee changes desks and technicians don’t have to fuss over constant installations.

In fact, an employee can carry the phone and use it at multiple locations. This makes it possible to use follow-me and find-me type
services. “It’s about getting away from ports and extensions and thinking about users,” Machowinski explains. “It adds flexibility and that’s a big selling point with organizations.”

Another thing that makes IP telephony so useful is the ability to add applets and an array of timesaving features. For example, IP phones allow users to dial by name from their contact database or online phonebook — or select a name by scrolling through the directory using the phone. One click connects the caller to the recipient.

These phones also track calls, deliver additional information and services, and allow an enterprise to multicast a message or announcement to employees scattered across various offices and facilities.

What’s more, because the phones typically provide a three-to-five-line LCD (liquid crystal display), they can also display pending orders, data from a customer relationship management (CRM) database or other specialized solutions, including news and a firm’s stock price.

“A company can customize applications for the phone. It can also put the phones into service in places where computers don’t exist or aren’t necessary,” Machowinski notes. In fact, information services are rapidly emerging as a major selling point for IP phones.

Unified communications is another selling point for IP communications. Some companies have already consolidated phone messaging, faxes and e-mails into a single inbox on the desktop. This makes it easier for individuals — particularly road warriors and virtual workers — to pull up the data and files they need without checking multiple systems.

Unified IP communications can also merge voice, videoconferencing and collaborative workspaces into a single environment — thus providing far tighter integration. For example, a manager or workgroup can track which individuals are on a conference call. “It eliminates the chaos surrounding taking attendance, along with the constant beeping and automated introductions that make a conventional audio bridge so distracting,” Lazar says.

Finally, there’s the ability to manage contact center operations more effectively — and in a far less costly manner than through conventional PBX systems. Although automatic call distribution systems and “screen pops” — the automatic display of data after a person enters his phone number or another numerical form of identification — have existed since the 1990s, IP communications has simplified and streamlined the process of transferring calls and allowing customer records to follow.

For instance, a representative in India answers a call, views the customer’s record and later transfers the caller to a second tier support agent in Canada or the U.S. All the information associated with the customer will remain with the call, regardless of how many times the person is transferred.

Mobile and wireless IP telephony is also entering the picture. Some organizations, including construction and engineering firms, are taking IP phones onto job sites and using them over a private Wi-Fi network. It’s possible for individuals to carry the phones on their belt or in a purse and receive calls that might otherwise go to voicemail.

In fact, they are also able to interact with crews scattered across the site and beyond. Says Lazar: “IP telephony opens the door to new options and opportunities. It can redefine the way an organization works.”

Dialing into Dollars

IP telephony isn’t without challenges and potential problems. Some companies have learned the hard way that the technology isn’t plug-and-play. “If an organization or its service providers lack adequate Quality of Service (QoS), performance problems can make IP telephony almost useless,” Lazar notes.

Dropped calls, latency, distortion and static can lead to frustration, wasted time and an overall loss of productivity. What’s more, without the right tools and technologies in place, troubleshooting can become a nightmare. “If an employee calls the help desk and says that there’s an echo or a problem with dropped calls, you have to have a way to diagnose the problem,” he adds.

Unlike data streams traveling across a network — in which a lost packet or two usually makes little or no overall difference — the bits and bytes of IP communications are more complex. A lost or delayed packet carrying voice data can make it impossible to carry on a conversation.

Yet, in addition to establishing QoS, an organization must ensure that the network is resilient and secure. If the network goes down and employees are unable to obtain a dial tone, the business may find itself sputtering.

During a blackout or disaster, reaching emergency services, such as police and fire, may prove futile, Lazar points out. According to Nemertes Research, IP telephony typically requires 30 percent more bandwidth than a conventional data network.

Nevertheless, IP communications usually drives impressive performance gains. For example, video typically performs better over an IP network because ample bandwidth is available. Picture quality improves, jumpy images disappear and dropped frames become almost non-existent.

In many instances, it’s also simpler and more straightforward to set up an IP videoconferencing session or manage a conference call. There’s no need to program systems or make elaborate arrangements ahead of time. Callers simply dial in and appear on the list of attendees.

IP communications also helps an organization achieve a competitive advantage through better customer service, a more connected workforce and an overall improvement in workflow and internal business processes. What’s more, a converged enterprise communications platform makes it possible to manage previously disparate processes and systems from a central console. “IP communications ties together numerous tools, technologies and systems to create a more streamlined enterprise,” Vance says.

Making Connections Count

Putting the right IP communications system in place is paramount. A well-designed system provides distributed intelligence — thus eliminating the possibility of a single point of failure. It also creates one point of administration — usually in the form of a software interface or “console” that offers a comprehensive view of various devices and systems, including phones, applications, media gateways and other devices.

And it provides tools that facilitate multisite collaboration through video, audio and on-screen integration. Yet, in order
A Sound Approach to IP Communications

- **Focus on the network.** IP communications draws heavily on network resources and thus requires a Quality of Service (QoS) initiative. Without an adequate platform, poor service and disruptions are likely to ensue.

- **Deploy IP technologies in phases.** Deploy IP phones in departments or at a single location before introducing the technology company-wide. In addition, adopt IP communications tools in phases, such as voice, unified communications and then video.

- **Use IP phones in new and innovative ways.** IP communications is more than a way to save on long distance bills and monthly service charges. IP phones provide enhanced data capabilities — visible on the phone’s LCD as a scaled down Web-browser. The information can include everything from news to product updates; customer information to product specs.

- **Offer training and instruction.** Getting the most out of IP communications means training employees how to use various features and tools. This includes the use of virtual mailboxes, unified messaging, audio conference bridges, video and collaboration, and other tools.

- **Keep a few conventional phone lines in place for emergency situations.** Without a battery backup, IP phones fail to operate when the network goes down or a power failure occurs. Keep a few conventional phone lines in key offices.

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