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Top VoIP Technologies & Trends

By Carmi Levy



After more than a decade as the Next Big Thing in IT, Voice over IP is finally starting to realize its long-held promise as a cost-effective enabler of agile business. Ever cheaper and

wider bandwidth, more tightly integrated applications, and rapidly improving quality of service are quickly addressing the obstacles that have kept some organizations from jumping in.

“This is the beginning of a wave of expanded functionality for voice communications,” says Mike Oeth, CEO of Junction Networks (www.junctionnetworks.com). “Once you have voice traveling along the same network as IM, presence, and email, you have all kinds of opportunities to mash them together to make them more powerful than any one technology is by itself. This will have a tremendous impact on business communications.”

■ Quality Finally Takes Center Stage

High-definition voice—often called HD Voice or HD VoIP—uses higher sampling rates and more robust network bandwidth to deliver significantly greater call quality.

“You have to experience HD Voice quality to appreciate it,” says Oeth. “It makes it so much easier to stay focused during long calls and easier to understand and be understood when someone is not using his native language, as is so often true in today’s business world.”

Key Points

- High-definition voice’s greater sound quality makes it easier to be heard and understood—a critical factor in today’s globalized economy.
- By breaking down barriers between traditional landline and cell phones through fixed mobile convergence, companies hold the line on costs through simplified infrastructure and reduced mobile voice and data usage.
- Open standards allow quick and cost-effective implementation of customized features, which helps smaller organizations level the playing field.

Convergence, long considered a holy grail of improved communication tools and processes, is finally becoming a mainstream reality thanks to a move to open standards and platforms. Earlier-generation VoIP solutions, often based on proprietary, vendor-specific technologies, are rapidly being replaced by more interoperable solutions.

“It would be unthinkable to have to buy your servers, your network switches, your desktop machines, laptops, and peripherals from the same vendor, and the same principle applies to VoIP systems,” says Lauren Morris, channel manager with [ipcortex \(www.ipcortex.co.uk\)](http://www.ipcortex.co.uk). “By opting for an open system, users don’t have to subscribe to the tyrannical lock-in and high expense associated with proprietary solutions. They can choose elements of the system that best suit their needs, be it a smaller budget, higher functionality, or other specific requirements.”

■ The Back End Gets Stronger

Improvement is happening behind the scenes, too, as simplified infrastructure allows smaller organizations and home office-based workers to take advantage of capabilities formerly limited to larger offices. SIP trunks, for example, allow direct communication with VoIP end points and elimination of interfaces and related equipment along the way. Richard Bishop, sales engineer with Black Box Network Services (www.blackbox.com), says this lets smaller players act bigger.

“With SIP, advanced calling features can be available to single end points without a traditional phone system sitting in between,” says Bishop. “SIP trunks will eventually replace traditional phone lines at a lower cost and more feature offerings.”

■ Software: The Great Differentiator

Although its name suggests voice, the real advantage to VoIP lies on the application side. Bob Paulsen, president and CEO of Unity Business Networks (www.unitybn.com), says extended capabilities are already giving his company a competitive edge.

“VoIP has become increasingly flexible for businesses that want to customize it for their specific needs,” says Paulsen. “For instance, we have a client, a travel agency, with 30 call-center groups. The client wanted to be able to see the activity of every call center on one screen and access it anywhere. We built that screen for him the next day. We are blending voice and data, providing more information that is customized for end users.”

Software-driven innovation extends beyond the firewall, too, according to Brent Thomson, CEO and programmer/developer of Jive Communications (www.getjive.com).

“Cloud computing mixed with software telephone switching makes for some really exciting possibilities,” says Thomson. “Any time you connect a computer to an otherwise mundane part of a business, things get interesting.”

The proliferation of VoIP providers and the widespread acceptance of Flash for dynamic online applications could make tomorrow’s VoIP look like a simple Web app.

“The ability to move away from dedicated hardware and into Web applications for VoIP services is starting to show in many areas,” says Dave Beering, managing director at MorganFranklin (www.morgan-franklin.com), a business and technology solutions provider. “This is attractive to the enterprise as well as developers/startups. Seamless integration into enterprise applications should increase productivity, and from a startup perspective, there is ability to recognize revenue almost immediately because development time is so short.”

■ Eliminating Barriers

Fixed mobile convergence, or FMC, has emerged as a key enabler of today's increasingly distributed mobile workforce. FMC breaks down barriers between traditional landline-based phones and mobile devices, allowing users to use one handset—a smartphone—for all calls. In the office, the technology allows a smartphone user to leverage the Wi-Fi network. Calls are automatically handed off to traditional cell-based networks as soon as the user exits WLAN coverage. As organizations look to squeeze more productivity out of their most important asset—their staff—flexibly deployed telephony shifts from luxury to necessity.

Jon Nelson, product marketing manager with Toshiba Telecom (www.telecom.toshiba.com), says the growing needs of today's remote workforce lie at the root of this change. He says a number of technologies are critical to improving business productivity, including wireless SIP phones that work via the WLAN; softphones that enable mobile workers while out of the office; IP telephones that support remote workers; and easy in-office moves, adds, and changes. Delivering sophisticated services all the way to the home office—a growing factor in virtually all sectors—allows companies to deploy remote call center agents to more closely adjust resourcing to meet fluctuating demands. It's a capability that has universal advantages.

"All sectors can benefit," says Nelson. "Any company or public agency who wants to gain productivity can use VoIP to network its locations, deploy remote IP telephones for remote workers or call center agents that are networked to the main telephone system, or use soft IP phones or wireless handsets for mobile workers." ■

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Most Promising Trend: Outsourcing

Accelerating change in VoIP capabilities makes it increasingly difficult for any company to keep pace. Buying outside services often makes more sense than building your own.

"For large organizations, these changes are often not a problem, but for small and medium-sized organizations, it can cause them to rethink or even delay their transition to VoIP," says Steve Wong, VP of marketing at Clear-Sight Networks (www.clearsightnet.com), who adds that vendors can deliver big company VoIP capabilities to small and midsized organizations for a fraction of the cost. Wong says this segment of the market is growing faster than the VoIP market as a whole.