It's Just Like Being There

Telepresence, the latest generation of videoconferencing technologies, offers some significant benefits to the enterprise. But CIOs need to beware of potential trip-ups. **By David F. Carr**

CRAIG KAUFMAN STUDIED VIDEOCONFERENCING vendors for years without ever being tempted to buy one of their products for his own firm, Kaufman Bros., a research-based investment bank and brokerage that specializes in the communications, media and technology industries.

CEO Kaufman, who holds undergraduate degrees in computer science and mathematics, in addition to an MBA, describes himself as "a banker by practice, while being a technologist and mathematician at heart." But videoconferencing technology held little appeal for him until last year, when he installed a Digital Presence solution from Telanetix. And now he won't shut up about it. "I recommend it to everybody who comes through my doors—it's a game changer."

Though he had tested videoconferencing systems over the years, Kaufman always had the impression that a lot of them weren't very functional. "This is the first time I saw something that was truly immersive, where we could interact on a quasi-real basis." It also was as easy to use as making a phone call, ending videoconferencing's reputation for being a technology only a technician could love.

The new generation of videoconferencing is often

known by a different name, telepresence, to emphasize how different their "just like being there" experience is from earlier, clunkier videoconferencing. It's just the kind of technology that's likely to capture the imagination of CEOs, CFOs and board members.

That can be a mixed blessing for CIOs, who may find themselves caught between boardroom enthusiasm for the technology and the practical details of implementing it. On one hand, technology leaders may be told to install these videoconferencing systems "yesterday"—at least, in the executive suite. On the other hand, this fervor could provide the leverage a CIO needs to justify network upgrades that will benefit other applications as well.

participants are represented by high-definition (HD) life-size images on one or more video screens. Then add high-quality audio, carefully designed lighting and a conference room layout that reinforces the impression of talking to someone just across the table—even if they're on the other side of the world.

I experienced this technology firsthand when I "met" members of the Cisco TelePresence marketing team by going to a Cisco sales office in Ft. Lauderdale, Fla. The receptionist guided me to a conference room where I sat behind a desk facing a 65-inch HD monitor, with a camera and a corona of lights pointing at me. She showed me that my appointment was queued up on the touch-screen display of the Cisco phone on the desk

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By some definitions, Kaufman's deployment might not qualify as telepresence because he installed the Telanetix equipment in an existing conference room rather than a specially designed one. But he doesn't care what you call it, because the technology has freed him to do business differently—a little like the way having a BlackBerry has enabled him to do e-mail when he's away from his desk.

In this case, Kaufman is freed from the need to travel from his office in New York to the bank's San Francisco branch for meetings such as job interviews. "I don't fly out anymore," he says. "I've actually hired people without personally meeting them."

He is also deploying the technology in a new office in Boston and is considering using video links to bring traders in other cities into the organization. Kaufman analysts use the equipment to participate in interviews with CNBC.

What's in a Name?

Telepresence is a term that's wandered into the industry from science fiction and technological research at places like the MIT Media Lab in Cambridge, Mass. There, the term is sometimes applied to much more futuristic concepts involving holographic images or roving robotic stand-ins for visiting executives.

In this article, we're using the term as it's currently being popularized—particularly by Cisco, which had its Cisco TelePresence systems featured on the Fox TV thriller *24*—as a form of videoconferencing in which

and told me to press that button at the appointed time.

When I did, I found myself looking into a conference room in California that looked like a mirror image of the one in which I was sitting. The only mismatch was between the system on my end, a one-screen TelePresence 1000, and the three-screen Tele-Presence 3000 at the other end. Multi-screen systems support larger meetings by showing one or two people on each screen, whereas a one-screen system must use audio cues to switch camera angles between participants sitting at different desks.

Another major player in the telepresence arena is Hewlett-Packard, which created its Halo system with help from Hollywood's DreamWorks Animation SKG, which wanted to design a breakthrough videoconferencing system for its own purposes. Projects like the *Shrek* movies involved collaboration between people at multiple locations in California and the United Kingdom, and DreamWorks wanted to cut down on travel by creating a virtual environment where participants in different locations could interact as if they were across the table from each other. The studio executives believed they could apply their own experience of putting an emotionally engaging experience on screen to creating a no-compromise videoconferencing experience superior to anything on the market.

"The real breakthrough was to decide that we were going to throw all the constraints out the window and go after the human experience," recalls Leon Davidson, who was part of the HP team that developed Halo

and is now CIO of Telepresence Solutions, where he consults on telepresence buying and implementation decisions. Halo's product design included input from psychologists and sociologists, as well as technologists, to make sure the product would produce a "human connection" across distances. Though the images on a Halo screen are slightly larger than life, the point is to achieve the effect of direct eye contact, combined with "bigger than life" audio, he explains.

Although Davidson is proud of his work on Halo, he says it's not always the solution he recommends. Halo is offered as a managed service, running on a private network operated by HP. That makes it ideal for organizations that are willing to spend more to get access to the technology without having to manage it themselves.

However, organizations that are already investing in high-bandwidth, converged networks to support

Key Questions to Ask About Telepresence Technology

▶ **Does telepresence fit into a broader video communications strategy?**

For some organizations, the answer may be no, if telepresence is the first corporate video technology their executives have seen the value of investing in. In many other large organizations, however, it may be essential to make telepresence fit into an architecture that includes previously established video conference rooms, desktop video and corporate video broadcasts. Those requirements may suggest that organizations first consider telepresence systems offered by vendors that already supply them with video technology, rather than going with a relatively new entrant.

▶ **Do you need a Rolls Royce, a Lexus or a Lincoln Town Car?**

The reason to invest in telepresence technology is to deliver a high-end experience—one that may be designed with top executives in mind. But just how high end do you need to go? And how convinced are you that this technology will give you what you pay for: Will the higher-priced offerings provide higher quality? Or can you get something that's just as good (or close to it) by venturing away from the high-priced brands? To get answers to these questions, you'll need to research the various systems available and talk to professionals who are using them.

▶ **Is your network ready for telepresence?**

If you really want to deliver an immersive "just like being there" experience, you will need to deliver both the bandwidth and the ability to prioritize traffic for this application, so that you can deliver the expected crystal-clear video and pristine, jitter-free audio. Even if you've already made the requisite network investments in the course of gearing up for applications like voice Over IP, you should still do the network assessment to ensure that you can support this bandwidth-hungry application.

▶ **What if your network isn't ready?**

This may be the killer app that will convince your board to invest in the necessary network upgrades to get the corporate network in tip-top shape. On the other hand, you may want to consider installing some separate high-speed network links between the locations where you're putting in telepresence systems—at least as an interim step.

▶ **Do you want to manage it yourself?**

If you already have experienced video and network technicians on staff, you may be able to add the job of managing telepresence to their workload. On the other hand, getting an external vendor to manage the network may reduce your staffing needs and potentially provide you with more thorough support, such as around-the-clock monitoring and service-level guarantees.

HP's Halo telepresence is offered exclusively as a managed service, and network operators such as BT offer managed telepresence services based on products from multiple vendors.

applications like voice over Internet Protocol may get a good deal from Cisco, which is promoting its TelePresence line partly to drive demand for its network equipment, according to Davidson. That works because CEOs dazzled by the vision of what telepresence can do for them may simultaneously discover a new enthusiasm for funding network upgrades, he says.

Meanwhile, established videoconferencing vendors like Tandberg view telepresence as "videoconferencing on steroids." They have more motivation to maintain backward compatibility with videoconferencing equipment that doesn't measure up to telepresence standards, Davidson says.

Conflicting Viewpoints

Larry Quinlan, CIO of New York-based Deloitte USA, says interoperability between telepresence and other forms of videoconferencing is important, especially in a pinch. For example, he says there might be times when

David Danto, director of emerging technology for the Interactive Multimedia Collaborative Communications Alliance in Syosset, N.Y., says telepresence vendors have made an impression with a strategy that says, "We can't do everything well, but we can do this one thing really well—and all you have to do to start is press this one button." That may work for organizations that need intense, ongoing collaboration between locations that can be equipped with identical equipment, but it tends to break down if more diverse locations and technologies are required, he adds.

Danto sees more potential in desktop video phones. He points out that telepresence may make companies take a second look at video communications, but features like ease of use, quality and reliability can be delivered without big screens and a custom-built room. "The communication may be nicer on a big screen, but that doesn't mean you can't get the message across on a smaller one," Danto says.

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—Larry Quinlan, Deloitte USA

a speaker couldn't get to a telepresence room but could participate by using the Webcam on his or her laptop.

Deloitte is deploying a mix of Polycom RPX (Real Presence Experience) telepresence rooms and less elaborate HD videoconferencing equipment. "I have a hundred locations in the United States, and it would be crazy to put custom-built, high-end rooms in all of them," Quinlan says. Instead, he now has about 10 telepresence rooms and may go to about 20. He'd like to have HD video in each location, but expects that only about one-fifth of them will get custom-built rooms.

Quinlan believes telepresence technology represents a big leap forward from prior videoconferencing systems, which were difficult to work with and often produced blurry, pixilated images. "I don't think [telepresence] is that overhyped," he says. "When you take the combination of the audio sound quality, much better picture and the custom room, it just works better—only it's damned expensive."

Many disagree with Quinlan. Numerous firms with mature videoconferencing infrastructures scoff at the innovations telepresence brings. They say that videoconferencing's bad reputation has mostly been a matter of making too many compromises and supporting too many features, leading to excessive complexity.

Kaufman, the investment bank CEO, says he's tried solutions built around a custom room design and doesn't like them. "I find them kind of awkward," he says. "You're supposed to sit in a specific place, and that makes me feel much less comfortable." What makes a real difference for him is the image quality, with its intimate sense of eye contact and ease of use. "And you don't need special lighting for that," he adds.

Not everyone shares Kaufman's opinion. The United Steel Workers (USW), for instance, took the telepresence vision very seriously when it began to use Tandberg equipment to support negotiations with Unite, a British and Irish trade union, over a planned merger. The negotiations eventually led to an agreement to cooperate on the formation of a new global organization, Workers Uniting, and telepresence technology played a role in that resolution.

"We built two rooms that were identical right down to the wood trim, the tables and the fixtures," recalls Mike Krueger, USW's information systems director. He says the telepresence setup was "extremely important" and "made a difference."

After months of flying back and forth between the United States and England early in the negotiations, the return on investment case for the telepresence

technology became obvious. "It doesn't take too many trips with 20 people going back and forth to London to be able to pay for this technology," Krueger says. "It also allowed us to meet more often."

And the telepresence technology continues to add value. In addition to being employed by top executives of the two unions, the system supports a weekly meeting between the IT teams here and abroad. So far, the system covers just two locations—Pittsburgh and London—but a third will be added once Workers Unite establishes its own headquarters, possibly in Australia.

Ensuring Success

The key to deploying this technology successfully, says Krueger, is to make sure it's consistently reliable and offers high quality. That's why he runs the telepresence system on a separate DS3 circuit from AT&T.

That's a common strategy, according to Bob Siedel, vice president of sales and marketing with BT's video services unit, which offers managed telepresence services based on equipment from Cisco, Polycom and Tandberg. "In almost all the sales we've had at a variety of corporations, they're running it on a separate, parallel network, not on a converged network," he says.

In other words, in order to guarantee a high-quality experience, many organizations are running telepresence on a separate network out of fear that its bandwidth demands would overload their core corporate networks. They may plan to move telepresence to a converged network eventually, but only after their capacity planning has had a chance to catch up with this new requirement.

Deloitte's Quinlan says his firm started out running telepresence on a separate network but is working to change that. "We're now confident enough with the technology that we don't think we have to run it on a separate network," he says. Moving it to a common network—with appropriate quality-of-service controls to allow telepresence to share bandwidth with other applications—is essential to scaling the technology.

"Right now, we're at the point of considering telepresence as part of an overall video strategy," Quinlan says, adding that it would be "the highest and most expensive part of that strategy." ✚

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