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VIDEOCONFERENCING THAT WORKS. FINALLY! IT'S STILL NOT CHEAP, BUT TELEPRESENCE TECHNOLOGY TAKES VIDEOCONFERENCING A GIANT STEP FORWARD. AND DID WE MENTION THAT IT'S REALLY COOL?

Back in the 1960s, the old AT&T's Western Electric group demonstrated the Picturephone to a doubting world, and the world has remained doubtful ever since.

That's because videoconferencing products developed since then have remained expensive and unpredictable systems that usually deliver small, fuzzy, jerky video images, often uncoordinated with people's voices because of network latency and unreliability.

When the Internet came along, there was hope that webconferencing would fill the void, but it hasn't been very satisfactory, since it requires reserved bandwidth and separate telephone hookups for sound and relies on troublesome desktop technologies.

Of course, good old-fashioned telephone conference calls are reliable, but they just don't cut it with people who want to do business face to face.

With all that history, it's hard not to be skeptical when news comes of „telepresence,“ a video collaboration technology that is supposed to deliver high-definition images and stereophonic sound with enough realism to enable useful collaboration.

Telepresence technology is expensive, requires two or more dedicated conference rooms outfitted with specialized equipment (or, in some cases, rooms that are custom-built to house the equipment) and often runs on proprietary network technology. But it's such a vast improvement over any previous video-based collaboration system that business users are signing up.

The Setup

Vendors as well known as Cisco Systems Inc. Polycom Inc. and Hewlett-Packard Co. , and as little known as **Teliris** Ltd. and Codian Inc. , are offering telepresence technology and services. The systems use a variety of technologies to deliver interactive video and sound signals that are realistic enough to make you almost believe you're sitting across the table from other conferees rather than across the world. Common to all of these systems is the use of high-definition television (HDTV) screens and cameras situated in such a way that participants sitting diagonally across from each other can see each other directly, without appearing to be off to the side somewhere looking straight ahead into nothingness. The odd angles you'd experience with ordinary videoconferencing technology virtually disappear with telepresence systems.

Telepresence configurations can use just one HDTV screen or as many as 16. Screens are positioned to be at eye level with seated conferees, and the images on the side-by-side screens are “stitched” together so that viewers feel as if they’re looking at one very wide screen. Speakers are positioned so that the sound seems to emanate from the mouth of the person in the image, not from the center of the table or some random location in the room.

All of that equipment requires a dedicated conference room. Cisco TelePresence systems are modular, and that’s currently the most common approach to telepresence, because the modules can be set up in any room large enough to house them. Cisco has even built custom tables that physically connect to the screen banks, which makes the room look a bit like it houses a circular conference table.

The Cisco systems come in fixed configurations with one or three screens, and the technology supports conferences between rooms with differing configurations.

New York-based **Teliris**’ VirtuaLive systems are custom-designed for each room they will be used in, and they’re tailored to reflect the purpose they will be used for. For example, some rooms are configured as conference rooms, and others as classrooms.

A typical **Teliris** installation for a small conference room includes three screens for participants to interact on and an additional screen for displaying the presentations used in the meetings. The screens are positioned across the conference table from the live participants.

Other VirtuaLive conference room configurations include many more screens, and meetings can occur between VirtuaLive environments with differing numbers of screens. A unique VirtuaLive feature allows for any number of **Teliris**-equipped conference rooms to participate in a single meeting. “We make it feel like a circle by vectoring the signals from the various rooms around a virtual table so that everyone sees each other naturally as if they were in the same room,” says **Teliris** CEO Marc Trachtenberg.

Not Cheap

Once installed, telepresence systems are essentially free to operate, but it’s the installation that’ll get you. A single- screen Cisco TelePresence system costs \$79,000 to install, and a three-screen system costs \$299,000 per room, according to David Hsieh, Cisco’s director of marketing management. And you have to multiply those figures by the number of rooms your telepresence network will have.

The costs of **Teliris** VirtuaLive systems are similar, with a single-screen room going for \$60,000, and a four-screen room coming in at \$250,000.

But analysts and users who have bought telepresence systems say they’re worth the money. “The technology is really cool,” says Forrester Research Inc. analyst Henry Dewing, “and it has the potential to fundamentally change how people view videoconferencing and how they do their work.”

Food ingredient giant Tate & Lyle PLC has **Teliris** VirtuaLive rooms installed in its corporate headquarters in London and its U.S. headquarters in Decatur, Ill. CEO Iain Ferguson says it’s easy to justify the cost. “A trip to Decatur costs us about \$25,000 and three days of executive time,” he says.

Jim Kittridge, Wachovia Corp. 's senior vice president and telepresence product manager, says the company picked the locations for its first two Cisco TelePresence installations by looking at travel patterns, which revealed that employees made about 15 trips a day between offices in Charlotte, N.C., and Richmond, Va. "The system is meeting the four objectives we had for it, which are to reduce expenses, increase collaboration among teams in different locations, increase employee engagement by keeping them off of planes, and fulfill Wachovia's corporate objective of reducing its environmental impact," he says.

"At Cisco, they've cut their corporate travel budget 6% by using their own TelePresence systems," says Dewing, who is familiar with Cisco's internal usage pattern. "That's a pretty big hit."

Kittridge says that Wachovia's TelePresence-equipped rooms are now used 45% of the time after just 60 days of operation. In contrast, use of traditional videoconferencing "has never reached 20%," he says.

"People are able to hold more meetings because they don't have the hassle of travel, and ad hoc meetings now happen that could never have happened if participants had to travel," Kittridge adds.

Networking has been the Achilles' heel of traditional videoconferencing, and it's still a concern with telepresence systems. If the video isn't smooth and perfectly coordinated with the audio, the performance devolves to being just like traditional videoconferencing.

So **Teliris** runs its systems over a dedicated proprietary network to achieve the high-bandwidth, low-latency transmissions that telepresence requires, says Trachtenberg. "Unlimited time on the network is part of the package customers get when they sign up for VirtuaLive," he adds.

Cisco uses a customer's own corporate network to carry its signal, according to Randy Harrell, the company's director of product marketing.

Making telepresence work requires a serious amount of bandwidth - as much as 45Mbit/sec. of capacity, according to Forrester's Dewing. "That makes the **Teliris** dedicated network approach attractive because you want to have very high reliability," he says.

But Kittridge says that reliability has not been a problem at Wachovia's sites. He reports 100% uptime for his company's Cisco installation.

So, how many companies are actually buying telepresence systems? Cisco's Harrell wouldn't share numbers, but **Teliris** claims that its customers added 50 new telepresence rooms in the second quarter of this year, and it now has customer installations in 20 countries.

According to Dewing, the potential of telepresence could be large once the price comes down. "It'll never get to \$10,000 per room," he says, but as standards emerge, "it will come down a lot." Dickinson has worked in IT positions ranging from systems analyst and software engineer to editor, writer, critic and industry analyst.