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A ONE-DAY LESSON IN TELEPRESENCE BASICS

For my first telepresence experience, I entered what looked like an ordinary meeting room, with ordinary people sitting at ordinary tables. The people were 5,489 miles away, but their video images were life-sized, realistic - and a little bit creepy.

I knew almost nothing about telepresence when I left the house Monday morning for Telepresence World, a small conference here in San Diego. By the end of the day, I had learned a lot.

Here's the total of what I knew before the conference started: Telepresence is a form of high-end videoconferencing, using big-screen high-definition displays showing life-sized images of meeting participants. The furniture and displays are all set up to create the illusion that people far apart are meeting with each other in the same room.

I saw three telepresence setups Monday, and had a few more described to me by vendors. They presented a range of available options.

Teliris and Polycom gave demos of their top-of-the-line systems. The experiences were quite similar to each other, from the standpoint of the meeting participants. The two vendors, and other competitors, offer what Polycom calls a „room within a room." You might also think of it as „teleconferencing in a box." The customer provides a meeting room of appropriate dimensions, electricity, and maybe a high-bandwidth networking pipe (which can also be provided by the vendor). The vendor provides everything else: Freestanding walls, tables, chairs, lighting, video display, controls, directional audio, and any other tools needed to create the illusion that two different telepresence meeting rooms - which might be thousands of miles away from each other - are in the same space.

Teliris also offers a modular setup where the users provide the room and furniture, and Teliris focuses on the technology. According to Teliris, the modular system offers the same experience as the telepresence-in-a-box system.

That's the high end. On the low end, Teliris, like other vendors, offers executive services for one-on-one meetings.

I also participated in a demo from Cisco Systems (NSDQ: CSCO) of a system consisting of a elliptical meeting table, where one long side is a row of screens which projects the life-sized images of meeting participants at other tables.

Some users prefer having the identical telepresence-in-a-box meeting rooms, others prefer to provide their own furniture and rooms.

Amusing Telepresence Anecdotes

One woman, participating in a Cisco telepresence demo from hundreds of miles away, in San Jose, described how she borrowed a telepresence room for a family meeting. Her son saw Grandma and Grandpa onscreen and tried to hug them.

Another Cisco staffer described a meeting where a participant knocked over a pitcher of water; other people in the meeting flinched as if avoiding getting splashed, even though they weren't physically present.

Benefits

Cost Savings: The main reason companies implement telepresence is to save money on travel. Trachtenberg said one pharmaceutical company saved $11 million on travel in the first year after implementing telepresence, and $12 million in the next year. A company in New Jersey used telepresence to link with a facility in nearby Philadelphia; they were able to eliminate a transit helicopter.

Improved creativity: By making meetings more spontaneous and natural, teamwork and ideas flow better. That pharmaceutical company was able to cut five months off the time needed to develop a new drug, which is an enormous business benefit in an industry where new product lifecycles move at jet speed, Teliris said.

(Note: I didn't talk to the pharma company myself and Teliris didn't give me their name. So take that claim with a grain of salt.)

Improved quality of life for employees Less time traveling = more time at home with families.

Security Companies look to telepresence as an alternative when terrorism or other disruption makes travel impossible, as happened in the aftermath of the 2005 attacks on the London transit system.

Applications

Obviously, high-level executive meetings and board meetings are common apps for telepresence. A telepresence room is top business bling for executives who want the latest BlackBerry, thinnest ultraportable laptop, and hottest company jet.

But there are other applications too: Steven Huey, chief marketing officer for Polycom, said medical students use Polycom technology to observe surgeries performed far away. Polycom, like its competitors, allows participants in a telepresence meeting to show presentations and video on separate displays, and the medical application uses those presentation displays to show what the surgeon is seeing.

Similarly, Teliris allows users to do collaborative video and graphics editing over its service, with changes reflected in realtime.

The Landmark movie theater chain uses telepresence to allow companies to host huge meetings in its theaters, Gold said. And TV news shows use telepresence to bring multiple people together at multiple locations for interviews, as an alternative to expensive, proprietary remote video equipment. (Gold stretches the word „telepresence" to include high-end videoconferencing applications.)

Executive recruiters use telepresence as an intermediate step between phone interviews and going to the expense of flying a candidate in for face-to-face interviews, Gold said.

Major Vendors

The major telepresence vendors are Polycom, Teliris, Tandberg, HP). The last two got into telepresence recently, and their big marketing budgets and clout turbocharged customer interest and adoption.

Obstacles To Adoption

Cost. This stuff isn't as cheap as slapping a $100 Webcam on top of your laptop and going to town. The high-end Polycom system, which seats 28 people, is $600,000, plus the cost of a meeting room big enough to hold all that, which isn't cheap anywhere and can be hugely expensive in a big-city downtown.

Interoperability: The big vendors systems don't interoperate with each other very well. That means if you want to set up a telepresence meeting with a potential new customer or partner, you have to bring them in to one of your local offices or go through some other gymnastics to make it happen. It's like e-mail systems were in the early 90s -- every company had its own internal e-mail, but they didn't yet have the interfaces needed to communicate over the Internet. That's changing as major players prioritize interoperability. Teliris on Monday introduced the Telepresence Gateway, which connects competing Telepresence systems as well as legacy videoconferencing, audio and desktop conferencing systems, and Web-enabled devices such as cell phones and PDAs.

Past bad experiences with videoconferencing. Potential users found previous videoconferencing systems to be hard to use, with big, complicated remote controls and a requirement to pan and zoom the camera manually. Trachtenberg said potential customers need to be convinced to sit down and check out contemporary systems. In Teliris's system, as with its competitors', the cameras are fixed, so panning and zooming isn't a problem. And setup is as simple as reserving the meeting rooms. In Cisco's technology, you can reserve the room in Outlook or over a Cisco phone. Teliris uses a Web portal or a display mounted on the wall directly outside the room, in a set-up reminiscent of the holodeck controls in Star Trek.

Teliris has a concierge managed service where a live person helps manage the meeting. Once the meeting has been set up, you just go into the meeting room and sit down as you would for an ordinary meeting, tap an icon on a display to start the meeting you've selected, and start talking.

Telepresence Buzzwords

„Meeting geometry" Telepresence systems permit meetings from more than two locations -- the Teliris meeting I attended had participants in a room in San Diego (including me), and two rooms in London. The rooms might have been facing any which way, of course -- the London participants were 5,500 miles away from me, and they might have been sitting with their backs to me for all I knew. And yet the telepresence displayed not only had them facing me (which is, of course, a trivial problem), but they also had things arranged so that they were appropriately placed in relation to each other, so that when one person in one meeting room in London talked to another person in another room in London, they looked to me like they were facing each other.

Eyeline refers to the camera tricks necessary to make it appear that someone on a telepresence display is looking you in the eye when they are, in fact, making eye contact with your image on their display. Companies get telepresence systems so that meeting participants can experience nonverbal signals such as facial expressions and body language. Looking someone in the eye is the most important of those signals.

Similarly, Cisco found that the participants in a meeting had to be 100% full-sized. Even 80%-sized images weren't effective, they looked fake and didn't work. This kind of thing is hardwired into our brains.

The Uncanny Valley

I did find the Teliris meeting creepy - but just for the first moment. Something about having all those full-sized people who looked lifelike but weren't there was unnatural, like the so-called „uncanny valley„ sensation that occurs when seeing a wax museum image, CGI animation, or robot that's almost, but not quite, lifelike. I got over it in a couple of seconds, though.

Closing On A Note Of Irony

Telepresence World was possibly the most ironic professional experience I've in a long time. I work from a home office and find I can do most of my job from the comfort of my desk. And yet I had to get in a car and drive 10 miles to get to a conference on technology designed to reduce the need for business travel.