

Getting ready for telepresence - IO



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Telepresence marks the next step beyond videoconferencing and webconferencing. The technology provides an immersive meeting experience featuring ultimate levels of video and audio clarity.

In a telepresence session, participants are life-size. Every sound, gesture and facial expression helps support natural communication in high-definition video and high-fidelity sound. Telepresence combines realistic and reliable video and audio with interactive functions, remote controls, content sharing, presentation capabilities, spatial audio and unified messaging, to make the telepresence experience "just like being there."

Once the stuff of science fiction, telepresence is already being adopted by businesses in sectors ranging from retail to manufacturing to finance to utilities. The technology joins an enterprise's existing communications portfolio—including VoIP, conferencing, messaging, enterprise social technology and mobile applications—to help team members boost performance, increase their interaction with the outside world, increase sales, protect investments and create rich collaborative experiences.

When used in conjunction with the services provided by a next-generation data center, telepresence helps adopters:

Save time: Telepresence reduces the need to travel. By doing so, the technology relieves an onerous burden from key employees, making them more productive and significantly improving their quality of life.

Accelerate decision making: With telepresence, you can bring decision makers dispersed across different regions and organizational units together to synchronize and commit on strategies and business objectives.

Boost innovation and customer satisfaction: By using telepresence to collaborate interactively with business partners and customers, you'll gain the ability to create new business processes, develop fresh revenue opportunities and develop new levels of customer satisfaction and innovation.

Reinforce teamwork: Telepresence cuts through geographical boundaries to unite people regardless of their physical location. The technology helps individuals located at subsidiaries, regional offices and other disparate locations feel as valued and involved as their headquarters counterparts. In challenging economic times, high enterprise-wide morale can help any company function more productively and cost-effectively.

Improve sales conversion rates: Telepresence can provide a consistency in remote relationships by offering anytime face to face contact. Sales representatives can use telepresence to seal deals quickly and resolve last-minute hangups interactively and convincingly.

Streamline employment interviews: Flying employment candidates to job sites is expensive and time consuming. Telepresence lets hiring managers interview and vet prime employment prospects conveniently, efficiently and cost effectively.

Accelerate strategic projects: Allowing project team members located at various sites to routinely meet and collaborate in a real world-like setting helps participants resolve difficult issues, brainstorm new ideas and reach timeline goals on schedule.

System components: Telepresence systems, including cameras, displays, speakers and other hardware and software components, are available from several vendors, including Cisco Systems and Polycom. Prices can run from several thousand dollars to upwards of a quarter-million dollars. Basic components include at least three 1080p High definition 65-inch (or larger) displays, several high-definition cameras, multiple microphones and speakers, special lighting arrays, a pair of 1Gb Ethernet ports in the room and approximately 2 to 3 Mbps of bandwidth per active screen.

Most telepresence systems are designed to integrate with other communications and collaboration applications, including existing video and web conferencing technologies, unified communications systems and various Web 2.0 technologies. Communications integration means that participants can work face-to-face in the virtual meeting room while also inviting in colleagues who are limited to phone- or web-based conferencing systems.

Network requirements: Telepresence performance and reliability requires the use of a **data center offering full system support**, including advanced global networking capabilities. For enterprise-quality telepresence the transport network needs to support stringent SLA metrics. Cisco recommends service with a one-way network delay of less than 150 milliseconds, peak-to-peak delay variation (jitter) of under 10 milliseconds and less than .05 percent packet loss.

Telepresence also requires ample, **high-quality and reliable bandwidth**. While a voice conference call between two enterprise sites typically requires approximately 100 Kbps of bandwidth, a telepresence session at 1080p resolution video needs about 15Mbps of bandwidth—150 times more bandwidth than a standard voice call. Even more bandwidth is necessary if a company or department decides to interconnect three or more conference rooms.

High-quality network service is necessary to prevent a telepresence session from descending into Max Headroom performance territory. The network needs to be able to recognize telepresence traffic, assign it the highest priority and dynamically allocate sufficient bandwidth as needed.

Security is another important telepresence concern. To keep sessions safe

and tamper free, Cisco recommends the use of network-based session border control, Network Address Translation (NAT)/firewall traversal, support for encrypted sessions (media and signaling options), Inter-VPN reachability, route authentication, management and access security and enterprise call admission control.

Bottom line: With business becoming increasingly global, and travel getting more expensive and cumbersome, telepresence's popularity is soaring. According to a December 2010 study by Wintergreen Research of Lexington, Mass., **worldwide telepresence sales will reach \$6.7 billion by 2016.**

There's a reason why telepresence technology sales are soaring, even in challenging economic times. It's because, for a growing number of businesses, telepresence isn't only "just like being there," it's actually better.

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