The Cisco TelePresence System 3000

Look Them in the Eye

Videoconferencing and telepresence can transform communications while saving the environmental impact and expense of travel.

BY SCOT CASE

As travel budgets continue to tighten, government agencies are discovering videoconferencing and telepresence – two virtual and environmentally beneficial alternatives to travel that allow you to participate in a meeting halfway around the world, or just down the block, without leaving your office.

Once used only by big-budgeted offices in the U.S. Department of Defense and other large federal agencies, videoconferencing services are becoming more affordable, more reliable and more available for government employees throughout North America.

Types of video conference systems

Videoconferencing systems range from simple Web-based systems to more elaborate telepresence systems that approximate sitting across a conference table from people who are thousands of miles away. The main system types include:

• **Web-based systems** – The least-expensive videoconferencing systems allow simple video communication between two individuals who each have access to a computer, an inexpensive Web camera, a fast Internet connection and the same software. While incredibly inexpensive (even free), image quality currently is poor and more appropriate for a conversation with distant relatives than a business meeting. Popular free software for Web-based videoconferencing is available from Skype, Yahoo Messenger and others.

• **Desktop videoconferencing systems** – Upgraded cameras, and audio and video quality enhancements such as support for the more sophisticated H.323 videoconferencing protocols, help desktop systems provide an improved experience – for a cost of $250 to $400.

• **Set-top videoconferencing systems** – Portable systems designed for use in small conference rooms typically include one or two large video monitors and a single high-end video camera, along with necessary hardware and controllers. The systems are designed to be moved into a conference room on a small cart and set up quickly. Costs range from $2,500 to $20,000, depending on capabilities.

• **Integrated videoconferencing rooms** – Installed in a conference room or classroom, systems include permanently mounted high-quality 32- to 52-inch monitors, cameras and a dedicated space for the necessary equipment. The room can also continue to be used for other purposes. Prices range from $10,000 to $100,000.

• **Telepresence videoconferencing systems** – Housed in identical, dedicated teleconferencing rooms, telepresence systems provide the illusion of sitting across a conference table from the individuals with whom you are meeting. There is a perceived ability to look them in the eye. A telepresence videoconferencing facility typically includes half a conference room table with chairs behind it and nondescript artwork on the walls. In place of the missing half of the conference room table is a bank of multiple, 65-inch monitors that contain video feed images of other identically decorated conference rooms, right down to identical chairs and similar artwork on the walls. The system creates the illusion of being in the

same room even if participants are thousands of miles apart. Such systems range from $60,000 to $350,000, in addition to monthly service fees. The full "immersion" experience only works if every participant is in an identical, dedicated teleconference room.

Financial savings

While the initial capital outlay to purchase teleconferencing equipment can be steep, the resulting cost savings can be significant. Eliminating travel costs including airfare, parking, meals, hotels and lost employee productivity can offset the cost of videoconferencing equipment in a matter of months. Hewlett Packard (HP), a videoconference equipment and services provider, estimates its own internal travel has been reduced 40 percent by increased reliance on videoconferencing. Cisco, another provider, estimates it saves $80 million annually in avoided travel costs.

Seattle, Wash., is saving money by relying on a number of mid-priced videoconferencing systems purchased from Polycomm and Tandberg, two well-known manufacturers. Given traffic and distance, employees of the Seattle Public Utility offices located on the outskirts of the city could waste half a day or more plus all of the necessary fuel to get to and from a downtown meeting. Videoconferencing avoids the fuel costs and allows employees to spend more time focused on their primary mission, says Steve Monsey, an IT professional from Seattle. It might even allow Seattle to reduce the size of its vehicle fleet if fewer employees need vehicles to travel to meetings.

Environmental benefits

Benefits extend beyond financial savings and improved employee productivity. By eliminating air pollution associated with travel, videoconferencing can also help reduce contributions to global warming and local air pollution.

A single round-trip flight from Los Angeles to New York City, for example, generates around 1,700 pounds of global warming pollution per person. A similar amount of global warming pollution is generated by driving a government fleet vehicle once a week for a 30-mile round trip to a meeting. Avoiding the travel enables governments to reduce their global warming footprint.

HP, for example, estimates it can eliminate more than 20,000 trips a year for internal business by using its videoconferencing and telepresence equipment. Avoiding those trips will save millions of dollars and avoid approximately 35,000 metric tons of global warming emissions, the equivalent of the annual electricity usage of 4,700 homes or taking 6,500 passenger cars off the road for a year.

Key questions to ask

When developing specifications for videoconferencing systems, it is important to understand how an agency or department is likely to use the system. According to Steve Monsey in Seattle, the key questions to ask are:

• **Does the office really need the equipment?** While videoconferencing is an incredibly powerful business tool,

sometimes a telephone conference call can suffice. More sophisticated solutions – ranging from desktop computer-based videoconferencing to full-fledged telepresence systems – should be reserved as replacements for situations that would otherwise require a face-to-face meeting.

• **How frequently will the equipment be used?** The payback on any system depends on its use. Fancier, and more expensive, equipment is not worth the investment unless it will be used regularly.

• **How will the equipment be used?** Different equipment is needed to join multiple remote offices together for weekly meetings versus to allow occasional one-on-one discussions.

• **How important is sharing documents?** Brainstorming meetings, in which multiple individuals will be diagramming possible solutions to a challenge, require more sophisticated communications equipment than a routine staff meeting in which an agenda can be distributed via e-mail beforehand.

Additional environmental considerations

While videoconferencing technology can significantly reduce adverse environmental impacts of travel, there are additional environmental considerations.

Seattle officials and others recommend seeking equipment that is certified to meet the European Union's Reduction of Hazardous Substances (RoHS) directive, which prohibits or restricts six hazardous materials typically found in electronic products.

In addition, it is important to seek information on the actual energy use of the products. The monitors and computers used in videoconferencing systems should be able to provide independent proof of meeting the U.S. federal government's ENERGY STAR® standard.

Finally, vendors should offer an equipment take-back program that guarantees all electronic products will be properly recycled at the end of their useful life in a process meeting U.S. EPA's Plug-In To eCycling: Guidelines for Materials Management.

Challenges

According to several information technology (IT) purchasing managers, the biggest challenge to greater use of videoconferencing is that some people are still reluctant to use it. "Some people are more self-conscious on camera than they are in person," explains Monsey.

The bigger challenge, however, is that people are unsure who has access to the technology and so they are less likely to propose using it.

The current global financial difficulties might be the key driver in its rapid expansion as more and more government agencies and private-sector companies invest in videoconferencing equipment and services to further reduce travel costs and improve employee productivity.

About the author
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