

Understanding Telepresence

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Telepresence can be defined as the ability to share audio, data, and video with a distant site or sites as though the person were truly in the same room, across the conference table from you. In other words, the ability to have a meeting that is as good as being there. What makes telepresence different from traditional videoconferencing relates to how the audio, video, document sharing, control systems, room environment, and transport are handled. Some would argue that HD (high definition) is the same as telepresence and many vendors are blurring the lines. In fact, some HD systems do not address all aspects that telepresence systems address. Issues like multiple cameras and the images they achieve and sophisticated control systems are more often addressed with telepresence systems than with HD systems. In addition, a telepresence system does not always have the same 16 x 9 image as does an HD system. So it is time for the vendors to help clarify to users the differences in their offerings. Three areas to consider are audio, video and control systems. Following is a brief explanation of each.

Audio Quality

To go beyond audio associated with traditional videoconferencing the audio quality needs to allow for users all talking at the same time with no clipping, lack of echo, the ability to reproduce low and high volume levels and not reproduce others (i.e. a whisper), and the ability to reproduce left and right conversations in order to identify which user is speaking. It is important for users looking at HD and telepresence systems to pay special attention to how they audio is handled by each vendor.

Video Quality

With conventional videoconferencing participants typically convene in rooms configured to include elongated or u-shaped tables. The on-screen result is that some people appear close while others are barely visible, so the camera must be continuously adjusted to capture images as people speak. When this happens, the technology becomes intrusive and distracts attention away from the communications at hand. Even those traditional videoconferences, where participants are seated around a boat or banana shaped table so they are equidistant from the screen, still lack the clarity of a telepresence system because the images and audio are not as crisp and clear and the technology has not been designed to be completely user friendly. Other factors that play a role in having excellent video quality include latency and vectoring.

Latency

Latency is a fancy word for waiting time. Real-time interactive applications, like videoconferencing, are sensitive to accumulated delay, which is referred to as latency. Latency results from everything that sits between the origination of the

sound and the ear of the person listening to it. The human brain wants to feel that interaction is real. Achieving imperceptible latency is a critical requirement of a true telepresence solution. Latency should be measured looking at both the codec and the network.

Vectoring

Vectoring allows a meeting to be enhanced by creating a more realistic orientation and interface among users. This includes the ability to consistently maintain eye contact, allowing the maximum number of individuals to appear on each screen, never sending the same image to more than one site, and proper camera placement to ensure that sight lines for all users are maintained. The fundamental issue is how to scale from a point-to-point call to a multi-site call. For effective meetings there should be no difference. To accomplish the feeling of “being there” requires multiple cameras and encoders to capture different perspectives of the table. Another major concept in the vectoring category is the concept of the system adapting to maximize itself for the particular call. During the call set up the camera zooms in to capture the correct number of people in each room and when more than one camera is involved adjustments are made for different positions at the table. It is important for users to test calls on various systems and look at both the delay and set up of the images when making a decision about purchasing either an HD or telepresence systems.

Control Systems

Control systems for videoconferencing products have traditionally been action-specific (user-directed instructions “pushed” to individual parts of the system) and not function-oriented (an integrated solution querying users regarding their needs in a “pull” scenario). All users want to do is have a flawless meeting and not have to deal with the technology by pushing buttons or accessing menu screens. With telepresence technologies and several HD systems users are better able to meet without having to control anything. While minimal control is also possible with traditional videoconferencing systems, it is not the norm. More often someone needs to take control of the meeting technology or the meeting tools available to the participants are not frequently used. With some telepresence systems the vendor controls all aspects of the meeting. If the vendor ceases to exist, the customer may have no control over the system. In other telepresence systems, the customer has the option of vendor versus customer control.

While there are many other aspects to consider when deploying a telepresence or HD system (i.e. diagnostics, document sharing, and transport), one that remains critical to success, but is often overlooked is room environment.

Room Environment

Unfortunately, many organizations do not put enough emphasis on the room environment in which videoconferencing technology is placed. This often results

in distant sites being unable to clearly see or hear the other end. The lighting is not optimized for video, resulting in shadows on faces, and the room is not properly treated for sound absorption, resulting in poor audio. Organizations that pay close attention to the room environment, whether in a traditional videoconference, an HD environment or a telepresence meeting, have a better meeting. Environmental issues needing to be addressed include: room dimensions, furniture and equipment placement, table shape, room acoustic treatments, fabric selection, colors, lighting design/placement, number of participants per room, and intent of usage (multi-purpose or dedicated).

Is It Time To Consider Buying Telepresence or HD?

As users assess the pros and cons of adopting telepresence or HD systems they need to be asking themselves if now is the right time to deploy these technologies or will waiting be advantageous? The answer to these questions is the same as the answer given twenty years ago about traditional videoconferencing: if one has the application and need to deploy telepresence, or HD one should do so now. While telepresence and HD are new spaces that are more expensive than traditional videoconferencing, the prices are dropping and the improvements are accelerating. Organizations need to ask vendors about what they offer and judge which system meets specific business needs. Firms who have used telepresence or HD systems have found them both to be of greater value than traditional videoconferencing and find it easy to justify the cost for both domestic and international meetings, especially where the meeting participants need to SEE what is happening at one or more distant sites.

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