

Collaboration Without Travel

Building Systems for Business Without Borders

By Craig Park, FSMPS

Regardless of the meeting type, multimedia technology can enable effective group interaction between distant participants. Whether audio teleconferencing, videoconferencing, or a web-conferencing application or service provider is selected as the medium and distribution method of choice, the processes of equipment selection, room configuration, procurement, installation, training, content development, and user orientation, requires careful study, planning and logistics management.

A recent article in *Fast Company* magazine noted that modern organizations, whether business, education, institutional or governmental, have similar overreaching issues. Advanced information technologies remain the central concern of the modern enterprise. They strive to develop strategies that anticipate the impact of technologies on the marketplace, on the competition, or on internal processes. Information technology is at the center of that strategy. The ability for companies to communicate and share vital knowledge can benefit all aspects of their operations. Conferencing technology is one way to communicate, distribute or deliver that key data.

Relying on the simplicity, and plug and play hype from the manufacturers of these systems is only half the story. As with any technology, good planning for both the system and the physical environment can ensure participants

will find these electronically enabled meetings are truly as effective as being there.

Understanding the potential, options and logistical issues for a technology-enhanced meeting will lead to successful implementations, reduced travel, improved productivity, and the implicit benefits of cost reductions and improved quality of life for all of the participants.

"Based on our experience, we expect to see increases in the utilization of videoconference systems by our clients," said Bonnie McCloud, Vice President at Gensler (www.gensler.com), architects and interior designers. *"Gensler conducted our annual Vice Presidents' meeting via a world wide videoconference this October, and it was very successful."*

Alternatives to Business Travel

Audio teleconferencing, videoconferencing, and web-based conferencing - continue to improve with advances in technology. Before an organization makes a significant investment in a conferencing solution, there are several important questions to ask:

- **Who is the client talking to, and what are they trying to communicate?**

- **What is the best technology and media to transmit their message?**
- **Does their IT/Telecom infrastructure support the technology?**
- **How can their people use the conferencing system effectively?**
- **What is their budget?**

How can clients use conferencing systems effectively? Traditional audio and videoconference systems allow for remote communication, presentations and distance learning functions. Newer Internet-based "virtual meeting" systems add even more tools for collaboration by participants anywhere in the world. The technology choices are myriad. As audio and video technologies merge with digital networks, the impact on an organization's telecommunications infrastructure becomes a critical consideration.

According to Randy Tritz, Director of technology consultants, Shen Milsom & Wilke's Chicago office, *"Each technology system has an impact on the group dynamics and protocols that occur during a meeting. These subtleties are important factors in choosing the right system."*

Selecting the Right Technology

Selecting the right conferencing system for a customer is more than just choosing equipment. It takes careful analysis. System options, facilities design, and implementation management are all equally important in ensuring the result will be an easy-to-use and effective tool, and not a complicated and expensive white elephant.

David Parrish, Interior Design Director and Senior Associate at PageSoutherlandPage (www.psp.com), commented, *"Rooms designed to integrate audio/video-meeting capabilities require architects to work closely with users and the AV design team to ensure that room provisioning, proportion and configuration maximize the effectiveness of audio or video collaboration."*

Key considerations when embarking on a new technology implementation include:

- Which rooms will be used?
- How many sites need to be interconnected?
- How many people at each site will participate in the meeting?
- Are the users technophiles or technophobes? (i.e., Is the system simple enough for anyone to use?)
- How will they be collaborating? (e.g., presentations, distance learning, training, group meeting, etc.)
- What types of supporting media (e.g., paper, or computer-based data, like MS PowerPoint®; text or graphics; videotape or DVD, etc.) are required?
- Will the meeting be recorded for transcription, documentary use, or archival retrieval/playback?

There are three basic approaches to distant-meeting systems: audio teleconferencing, videoconferencing and web-conferencing. Each one as different planning and infrastructure requirements, pros, and cons, and budget considerations for them to be effective.

Infrastructure Guidelines

Planning for any conferencing solution requires coordination and integration with facilities, IT and telecommunications infrastructure. Each technology has its own impact on these systems, and early analysis can simplify the conferencing system implementation and reduce costs and headaches.

"I see our design challenges as twofold. First, it is to help our clients get the best capabilities for their budget, and optimize the functionality of their facilities and videoconferencing systems. Secondly, and sometimes at cross-purposes to the first, is making the room functional when it is not being used for videoconferencing," McCloud continued.

Parrish added, *"There is a dynamic complexity to a designated video meeting room design. Group size drives camera location(s), size of monitors, and visual sightlines, which, in turn, have an impact on room width, ceiling height, lighting, audio, and furniture layout flexibility."*

Audio teleconferencing systems are the easiest to implement, but are not without some design considerations. Even the simple tabletop speakerphone has power cords, transformers, and cables to consider.

Building a custom audio teleconference system for a specific conference room requires coordination with both the room and furniture design. It is very important to integrate the microphones and speakers in locations that optimize

the voice quality of the system as perceived by the distant participants.

Furniture selection, component layout, room acoustics and lighting are most often cited as the factors that influence the quality of **videoconference systems**. Jeff Wilde, Principal in the Shen Milsom & Wilke New York office noted, *"Ergonomics are extremely important. The quality of the audio is rated as more essential by users of any conferencing solution than the video, and this directly relates to the importance of room design."*

Planning for wall treatments that minimize echoes and control external noise (e.g., HVAC systems) is important. Lighting fixtures should be selected and located to provide good illumination of the participants' faces, and backlighting of the rooms perimeter walls.

Web-conferencing systems have their infrastructure issues as well. Desktop configurations (i.e., graphics capabilities, memory, hard-drive capacity), LAN capacity and transmission speeds are all issues that should be addressed before implementation. Probably the biggest factor in successful web-conferences is user training.

ISDN lines for H.320 systems can take significant time for the telco provider to commission, and H.323 systems use significant network bandwidth and can have a detrimental impact on some WANs. Gateway hardware is available to allow the two different standards to communicate with each other.

Enabling Effective Meetings

After the appropriate system is defined, selected, procured and installed, there is still the all-important step of training and orienting the users. Whether audio, video or web, the structure of the meeting needs to be shared, and the information exchanged needs to be formatted to best utilize the chosen medium.

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Audio teleconference meetings benefit from an understanding of proper etiquette. Each person should introduce themselves before they speak. Interruptions are bad form. Allowing the other person to finish their thought before introducing a new idea is more respectful, and allows the conversation to flow smoothly. While newer systems do not suffer from the cut-out that plagued early squawk box systems, and do allow for multiple simultaneous conversations, it is still polite to wait. Clients should make sure all sites have the documents that will be discussed, or access to web-based information. It is difficult to reach consensus unless everyone on the call shares a common vocabulary.

Videoconference meetings have some similar issues. Establishing guidelines for speaking order and protocol is important to accomplish before the meeting starts, and this is critical when more than two sites participate in the call. Printed documents can be presented using a graphics camera but should be formatted appropriately. Landscape format and sized for the 4:3 ratio of the monitor screen is best.

Developing the content for an effective **web-conference** virtual meeting is not without challenges. One of the hot topics for content these days is streaming media. Streaming media provides live or taped video onto the web site over the LAN, WAN or Internet. However, streaming solutions have bandwidth demand, server specification, storage, administration, security, and scalability issues that impact the information systems infrastructure.

The Pros & Cons of Conferencing Options

Audio Teleconferencing Pros:

- Excellent for short-to-moderate duration meetings where small groups of participants know one another and can relate voice to image
- Multiple sites can be bridged together using a conference service
- Simple to use (like a telephone)
- Low cost for tabletop systems - \$ 500 to \$ 1000/site + telephone charges. Custom systems can range from \$ 10,000 to \$ 50,000

Audio Teleconferencing Cons:

- Subject to the lowest common denominator quality of service (i.e., if one system has poor connection or malfunctioning system, everyone suffers)
- Takes a good moderator and group etiquette for meeting to run smoothly
- Difficult to coordinate shared images and/or documents
- Analog systems will not work with modern digital phone switches and systems
- Room acoustic treatment necessary for optimal use

Videoconferencing Pros:

- Excellent substitute for face-to-face meetings where participants benefit from seeing each other (body language) and need to share presentation material (e.g., MS PowerPoint®)
- Multiple sites can be bridged together using a conference service
- Multimedia (e.g., videotape, DVD, graphics camera, MS PowerPoint®) can be added to presentation
- Distant parties without a video system can participate via telephone

- Moderate cost for room systems - \$ 6,000 to \$ 30,000/site + approximately \$ 80/hour/site domestic ISDN telephone network charges. Custom systems can range from \$ 20,000 to \$ 50,000 or more depending on room size and configuration.

Videoconferencing Cons:

- Subject to lowest common denominator quality of service (i.e., telco/ISDN and network/IP connections can be intermittent, and if one system fails all systems are affected)
- Vendors pitch systems as plug and play without consideration of meeting type or room configuration
- Takes a good moderator and group etiquette for meeting to run smoothly
- Room acoustic treatment and special lighting necessary for optimal use
- Perceived by inexperienced users as complicated and restrictive; takes good training and orientation

Web-Conferencing Pros:

- Excellent for small to large group business presentations where participants can interact via chat mode (i.e., submit questions to the presenter)
- Can include live or taped streaming audio and video, and shared presentation material (e.g., MS PowerPoint®)
- Virtually unlimited number of desktops can participate
- Programs, presentations and training sessions can be archived for later viewing or review
- Moderate cost for aggregation services - \$ 50/seat + telephone/network charges. Internal server based systems can range from \$ 3,000 to \$ 50,000 or more, depending on

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configuration, production options, etc.

Web-Conferencing Cons:

- LAN/WAN configuration required for issues related to security, network capacity, and bandwidth
- Limits on effective group size for interaction
- Subject to network quality of service (i.e., bandwidth and capacity) and individual desktop configuration variances

- Takes significant preparation for content to be configured for desktop format
- Requires end-user orientation and training to be effective

Enabling Effective Communication

In an era when the economies and logistics of travel have become more difficult, multimedia conferencing technology provides an appropriate and cost effective tool for collaboration and information

exchange between individuals and groups. Experts believe that conferencing systems will gain momentum as a replacement for long-distance travel, and that the demand for information on the effective use and application of these systems will increase. As with any new communication process, early and thorough needs and applications analysis is the key to the successful development of an electronic conferencing system.

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