

The Art of the Successful Videoconference

A whitepaper prepared by the Shepard Communications Group and Proximity, Inc.

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The Corporate Videoconferencing Facility

As we noted earlier, there are two ways a corporation can have videoconferencing capability. The first is through the use of a videoconferencing service provider that arranges the use of a public room and manages the entire event from start to finish. The other is to purchase and install a videoconferencing room for the corporation. We will discuss each of these options in turn.

The Public Room Option

Companies that use videoconferencing only occasionally cannot justify the cost of installing a dedicated room for the service. Instead they have the option of contracting with service providers such as Proximity. These companies are true *service* providers: they provide the oversight, scheduling, logistics management and event execution for the client. If they do their jobs properly the client walks into the room, sits down, and commences the meeting.

As a customer there are a number of issues that should be discussed with the service provider. The first of these is fee structure. How is the event to be billed? Is it a fixed price or is it billed on an hourly basis? Does the price include equipment,

support, and other ancillary services, or are these separate line items? What are all of the billable components of the service?

The second issue is service quality. Videoconferences today must be high-quality events or they are deemed to be failures. Does the service provider offer a service level agreement as part of the service that they offer? What quality can you expect from the connection? If possible, have the service provider arrange a demonstration so that you know exactly what to expect. Ask them what kinds of activities do not work well on videoconferences – they are very aware of the kinds of things that work well as well as those that do not. For example, because of the compression that takes place during the transmission of the signal, some information is lost. While a face is perfectly discernible, a spreadsheet, even when projected on a high-quality document camera, is absolutely unreadable. So take the time to talk to the service provider about recommended use of the technology.

The third issue is availability. What kind of lead-time is required to establish the conference? This will vary with the location and number of sites requested, but give the service provider adequate time to manage the event.

The fourth issue is support. What kind of services are part of the overall package? For example, will there be technical support readily available in the event of video or audio difficulty? Does the package include added production value such as lighting, backdrops, site support, and materials management? Will there be an on-site coordinator to serve as a single point of contact? If so, what are their responsibilities?

Most videoconferencing service providers are extremely professional and make it their business to manage these details for the client so that the client doesn't have to. However, it doesn't hurt to ask questions and be informed.

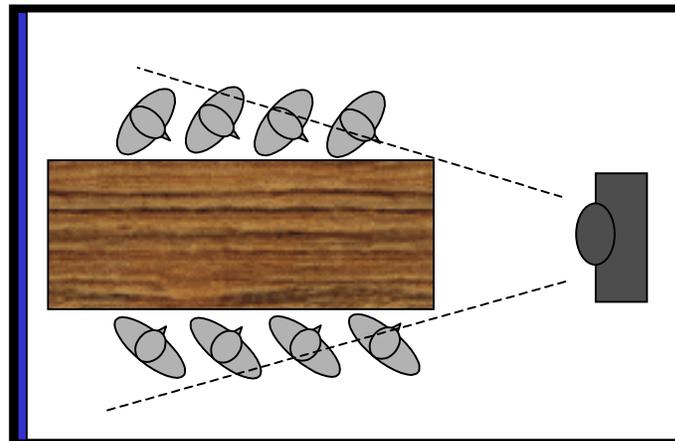
Designing and Building a Room

For companies whose videoconferencing usage is consistently high, it makes sense to purchase one or more videoconferencing units and dedicate a room for the purpose. And while it seems like a simple thing to buy a unit, roll it into a room, add a table and a few chairs, and start conferencing, it is in fact significantly more complex than that. Failure to take into

consideration additional factors, many of which are less-than-intuitive, can result in a poorly designed and non-functional room and a significant waste of capital.

The Room

The single most important factor in the design of a videoconferencing facility is the size of the room. The most common mistake that companies make is installing the equipment in a room that is too small for the videoconferencing



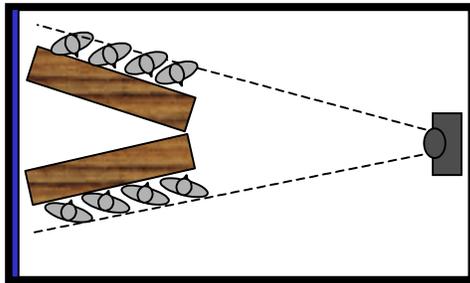
application that will take place there.

Videoconferencing rooms require a minimum of 2-3 square feet per participant.

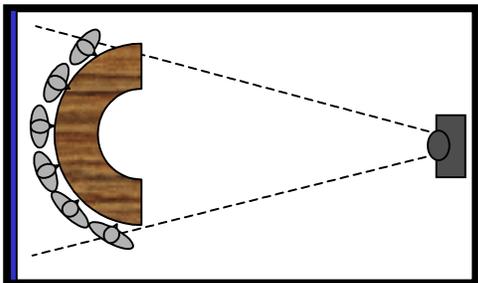
The figure at left shows the layout of a typical videoconference room that is too small. There are eight people in the room, but only four of them are actually visible to the far end because the videoconferencing unit's lens isn't wide enough to capture all of the participants. If it *were* wide enough, the images of the people in the room would be distorted. Of course, some will argue that this can be overcome by panning the camera back and forth, and while this can be done, it is distracting. Furthermore, the seating is not optimal because the

participants have to sit at an angle to take part in the conference. Better to pick a larger room as shown at right.

The other alternative is seating. The goal in designing the seating arrangements is to flatten the viewing plane as much as possible to ensure focus across the entire room and to minimize the amount of adjustment that the camera must make as it moves from speakers to speaker.

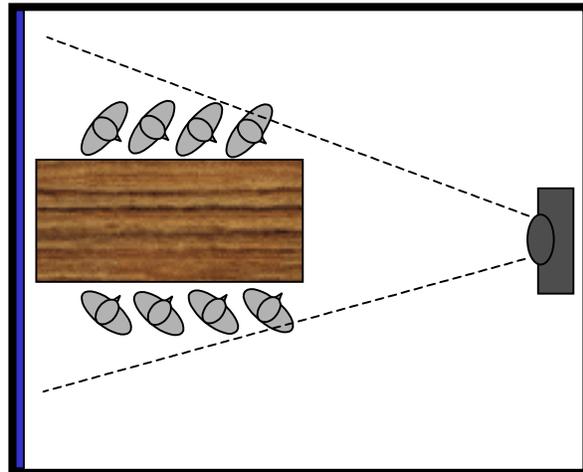


There are three options for seating participants in a videoconferencing room. The first is to arrange the furniture so that the participants sit in a 'V' facing the conference unit (above). This provides good coverage for the camera and comfort for the participants.



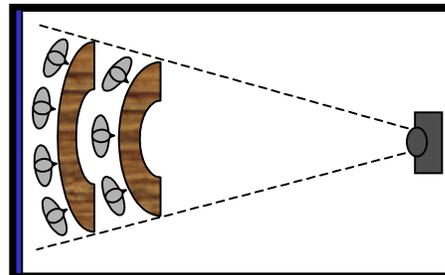
The second technique is to seat the participants in a semi-circle (above). This provides adequate coverage for the camera and again, offers a

comfortable seating arrangement for



conference participants.

The third technique is to tier the participants (below).



Another consideration is the actual use to which the room will be put. If the room is to be a dedicated videoconferencing room that will be used for nothing else, that's great. More commonly, however, it will also be used for ad hoc meetings and other purposes, which is fine – but it must be clearly understood that the primary purpose for the room is videoconferencing, and the room design must reflect that.

Many companies feel that the corporate boardroom is the best place to install the videoconferencing room because a lot of money

typically went into making it look good. For this very reason boardrooms don't usually make good videoconferencing rooms. They tend to be dark and poorly lit, and because a lot of money went into them, the room manager will not be thrilled with the idea of running cables, drilling holes, changing the lighting and curtains to make the room video-friendly. Better to designate an alternate facility.

Room Color and Lighting

The room should be painted a neutral gray color in flat, non-reflective paint. While not necessary, some companies hang a royal blue or green curtain behind the head of the table (directly in front of the camera) to add color and a degree of professional "set dressing." Alternatively, a company logo or location identifier as shown below can be added. Even if the location identifier is not on the wall, a sign on the table should be used to identify participating sites.



Room Lighting

The standard fluorescent lights found in most conference cast a

decidedly green pall on everyone in the room. For videoconferencing it is advisable to remove the normal tubes and install bulbs that emit light that emulates the spectrum of natural sunlight. The reflectors in the light fixtures should be replaced so that they bathe the walls and all other surfaces with even lighting. Additional lights can be added to further illuminate the participants. The angle of the lights should be adjustable, and all lights should be on dimmers to allow the ambient lighting to be adjusted with significant granularity.

Room Acoustics

In most cases the room that will be converted for videoconferencing will not be soundproof. Of course, the room is not designed to be a sound stage; as long as ambient noise from the surroundings is reduced, the room will suffice. However, the room should be chosen carefully: designers should consider baseline noise from air handlers, fluorescent fixtures, and adjacent noisy rooms (lunchrooms, lounges) in addition to street noise.

Noise can be reduced in a number of ways. Hanging heavy curtains around the room, for example, can dramatically reduce the amount of sound that enters from the outside. The curtains fulfill two other functions as well: they look good, and they block light coming in from outside if there are windows in the room.

The room should be covered with a neutral color, short nap carpet to further reduce sound bounce and to eliminate the sound of shoes clicking across a hard floor.

Furniture

Furniture should be chosen with several criteria in mind. It should be neutral in color, preferably light gray without discernible patterns, and should have non-reflective surfaces. It should be easily movable to facilitate rearrangement for different conference scenarios.

Equipment

As Tim Allen would say, “You can’t have enough tools.” That’s certainly true in the videoconference room.



First and foremost is the videoconference unit, an example of which is shown above. This particular unit has two monitors so that it can simultaneously display both the near and far-end locations of a conference. The second monitor is optional, but is highly recommended. In every case the unit

should be easily upgradeable (CODEC software). A useful add-on for the videoconference unit is a cart; being able to move the device easily facilitates rearrangement of the room when necessary.

Other equipment is also optional, but recommended. A document camera such as the one shown below allows a participant to draw on a piece of paper and have the camera transmit the video image into the system so that all participants can see it. These devices work extremely well for displaying objects or for displaying simple line drawings. They do not work well for printed text or for spreadsheets because of the loss of image detail due to signal compression.



Another tool that is extremely useful in a videoconferencing facility is a scan converter, which converts a signal from a PC so that it can be displayed on the TV screen of a videoconferencing unit.

Finally, some kind of video playback unit is useful – a VCR or DVD, for example. A VCR allows the

conference to be taped, but be careful: wiretap laws in many countries require that all participants be clearly advised that they are being recorded. Do not fail to make an announcement if you intend to record the session.

Network Connections

The bulk of videoconferencing units today use ISDN for connectivity with the transport network. Room designers should check with their IT staff or with their local service provider to ensure that the appropriate network connection will be available.

As we noted earlier in the book, be wary of commingling video traffic with other corporate data streams. Video is a bandwidth hog and will create problems on the corporate LAN if it is allowed to travel there. Best to segregate the two to ensure maximum performance.

One area that is often discussed is the question of encryption. For the most part, video signals travel across the public switched telephone network, where they could conceivably be intercepted in the same way a telephone call could be monitored. In order to do that, the would-be interloper would have to either be in the equipment closet in the building where the conference is taking place, or in the telephone company central office. The point is that while the possibility of signal interception exists, the chances are so

remote that it is probably not worth worrying about.

Of course, encryption is available, but in order for it to work, all sites must have the ability to both encrypt and decrypt the signal, and this capability adds significant expense to each location.

Other Considerations

Videoconferencing equipment represents a significant capital investment. As a result, the room should be kept locked at all times. The room should have a single person responsible for its use to eliminate scheduling conflicts and to ensure that the room is prepared at all times for use. Locking the room also prevents unauthorized people from using the equipment. It isn't a television, even though it may look like one. Bob Maurer of Proximity recounts an endless chain of stories about trouble calls that he has fielded, all the result of people monkeying around with the equipment.

The Conference

To ensure a successful conference, attendees should follow a simple set of guidelines that are not all that different from those listed earlier in the book for television studio presenters.

Participants should wear solid colors, preferably blues, grays, and greens, *never* red, and should avoid

clothing with patterns. They should plan to arrive a bit early to familiarize themselves with the environment and to ask last-minute questions about the equipment.

As with any meeting, participants should come prepared for the task at hand. Remember, it's just a meeting – the distance component should be relatively invisible if the conference is established and conducted properly.

The room coordinator should take a few minutes to familiarize participants with the use of the equipment, the features of the system, and whom they should call in the event of a problem.

If these guidelines and those listed for the studio presenter in the attachment to this paper are followed, the conference will be successful.

Preparing the Studio Presenter

As a result of the growing corporate popularity of television education, conventional presenters are finding themselves thrust in front of commercial video cameras, an experience that many would forego in favor of a root canal if given a choice. Television is not a particularly *easy* medium to present with, but it doesn't have to be a grueling ordeal, either. A well-prepared presenter will find that it isn't all that different from classroom or meeting room presentations, with a few notable exceptions. Listed below are the key concerns a presenter should be concerned with.

Rehearse, Rehearse, Rehearse. Then rehearse some more. When you feel as if you are truly comfortable and prepared for the show, rehearse again. There is no such thing as too much preparation, although heavy rehearsal the day before the broadcast can be overwhelming. Use the day before a broadcast to go over the logistics of the studio. Work with the director and studio staff to review the things that are important to them: hand signals, television methodology, break logistics. The better you know their requirements and the closer you follow their instructions, the better your production will be.

Watch Others. Take time to watch professional broadcasters on television. Practiced lecturers and

commercial broadcasters can lend tremendous insights into such things as mannerisms and actions that are (and are not) effective in a television medium. Watch what they do with their hands, listen to the cadence of their speech, pay close attention to general body language. What kinds of things do they do that you find appealing? Conversely, what do they do that irritate you?

Personal Pre-show Care: Take care of yourself the week preceding the broadcast. Televised instruction demands a deceptively large amount of emotional and physical energy, so prepare your body for the ordeal. Eat light, healthy foods -- fish, chicken, lots of fruit and vegetables.

Minimize alcohol consumption (don't fall prey to the misconception that it will help you relax in the days before the broadcast). Get moderate exercise and *lots* of sleep. This is a good time to be selfish. Explain to those close to you and to bosses and peers that you won't be available to them the day prior to the telecast. Self-indulgence isn't a luxury at this stage of the game -- it's a necessity.

Trust the Director. Put absolute faith and trust in the director. The director's job is to worry about the logistics of the television show so that you as the presenter (sometimes called *the talent* by the TV folks) don't have to. That leaves you alone to concern yourself with the material that you will present on the air. I was

extremely lucky during my broadcast in that my director exuded professionalism. For the period leading up to the broadcast I belonged to her, and anyone who tried to get near me for anything that didn't have to do with the broadcast was in danger of losing ears and fingers. She took care of everything that had to do with the medium, and in fact shooed me away from it wherever possible. Television production is fascinating, and there is a natural desire on most peoples' parts to get wrapped up in it. She gave me a little time to be starry-eyed in the studio, and once the fascination began to ebb, she prodded me back to work.

Don't be afraid to ask the director questions regarding the direction of the show. Remember, they probably won't know anything about the material that will be presented, but 99% of the time they don't have to. Occasionally a situation will arise in which the nature of the material will dictate a particular direction that contradicts what the director wants to do. Don't be afraid to make suggestions, but if the director is adamant, that's okay. Remember, their job is to make you look good on screen. *Your* job is to present the material professionally. Period.

Clothing Color is an important consideration during television instruction. Colors don't look the same on TV as they do live, and some are not recommended. White shirts are definitely *verboten*. White

tends to flare on a video camera; light blue, dark colors and tan are fine. Avoid patterned material at all costs they create a distracting moiré effect on camera.

Similarly, single color suits in dark colors are great -- no plaids, no herringbone, no bright pinstripes. The simpler the material, the better it - and you - will look onscreen. And of course, avoid royal blues or bright greens if bluescreen technology will be used during the broadcast. Best to assume that it will be and dress accordingly. Be advised: If your clothing is not appropriate for the broadcast, the director will dress you in something that is.

Wear comfortable clothes and comfortable shoes. You will spend a considerable amount of time under hot lights, so the lighter the clothing, the better. And, you may be on your feet for extended periods of time, so unless your particular production will show your feet, consider wearing sneakers.

Site Coordinators are a necessity if you broadcast to multiple remote locations. They should receive formal training on their responsibilities and should manage the following. They ensure that textbooks and other materials arrive on time, and that there are enough in each room for the number of registered participants. They set up the room, and arrive early each day of the broadcast to ensure that the unit is on and that the audio and

video signals are at their correct levels. They introduce themselves to the participants and give them a pre-class overview that covers the delivery medium, use of the telephone lines, what to do in case of trouble, how to ask questions, and so on. They make themselves available to conference participants during the day in case a problem crops up that needs their attention. In short, they represent another layer of responsibility that the presenter needn't worry about.

Beware participants in the Studio. There are two trains of thought on having a live audience in the studio. One says that participants in the studio lend comfort to the presenter, since they provide eyeballs to focus on and an audience to measure reaction to the material against. The other thought is that the presence of people in the studio causes the presenter to have, in effect, two audiences. The natural tendency is for presenters to look at the people and to ignore the camera. This risks alienation of remote participants.

I personally find an empty studio to be easier. It takes some time to become comfortable with the impersonal nature of the camera, but that's what rehearsals are for. Presenters learn early on to use "faces in the crowd" to measure comprehension and to control delivery timing. The television medium removes those visual cues, so a significant adjustment is often necessary. The presenter must resort

to forced interaction – "Bob out in St. Louis, does your group have any questions? How about Dallas, any questions there?"

Cover logistics of the television medium before you begin. Explain to participants what they can expect in terms of teaching technique. Cover the technology involved: how to call with a question, how to restore a lost signal (or who to call). Put contact/trouble numbers on the screen, and ask participants to write them down. If you're lucky, one person at each location will be motivated to do so.

Be Yourself. Let's face it, standing in front of a television camera for a live broadcast is at best stressful, at worst terrifying. A strong mental resolve to keep things in perspective can help presenters get through it.

Try to remember that to the audience participants, you are similar (but *not* identical) to any other presenter that they have had in a live setting. The delivery medium is different, but to them, making a mistake on TV is no different than making a mistake in front of a live audience -- and we've *all* done that. It's not the end of the world.

One key difference between a televised presenter and a live one is that for some unexplainable reason, television gives presenters a presence that is grander than life. Everything said to a group will be taken with a little more credence,

simply because it is delivered via television. For this reason alone, it is imperative that television presenters work hard to appear natural and comfortable on the air and to be willing to make mistakes -- more importantly, to be willing to say, "I don't know, I'll get back to you on that one." The medium works both ways: It can remove credibility with just as much force as it can deliver it.

Don't be afraid to use notes or an Instructor Guide, just because you are teaching on television. *If that's the way you teach most effectively in a classroom environment, then by all means, teach that way on television.* Again, this is not a measure of your on-screen presence as a commentator; it is just another presentation. If you regularly look down at notes when you speak before a live audience, don't be afraid to do it on TV. A word of advice: because of the exaggerated nature of television instruction, five seconds of reading notes on the desk feels like fifty. *Force* yourself to take as much time as you need. Again, the best way to *look* comfortable is to *feel* comfortable, and the best way to do that is minimize activities that take you out of your comfort zone.

The "Larry King Effect" is the reticence that participants typically feel about calling a television presenter with a question. Many are reluctant to ask a *live* presenter a question, much less a TV "personality."

To minimize this phenomenon, presenters can design their presentations in such a way that participants are ever-so-gently *forced* to interact. For example, remote sites can be asked to work together for a few minutes on a group project related to the subject matter. Then, the presenter can ask someone from each location to give feedback to the audience on their findings. This tends to make the speaker feel as if they are not alone, and that they have a team behind them.

Other methods that encourage interaction include impromptu questions directed at particular sites, or individuals at those sites. This can be a bit awkward, however, if the question requires some thought, since the facilitator might be faced with managing dead air time -- the first deadly sin of television -- while an answer is being formulated. The presenter also runs the risk of alienating the audience by putting participants on the spot, and potentially on the defensive. Play it by ear, and take the time to know your audience prior to and during the broadcast. The better you know them the better you will be able to assess the relative effectiveness of different techniques.

Variety is everything. Even the best television shows and movies can get tiresome, and let's face it, folks, technical presentations ain't Bruce Willis. Hours in front of a television screen can result in eyestrain and a restless class, and the endless drone

of a presenter's voice can mesmerize even the most dedicated participant into an unconscious stupor. To minimize this, break your presentation style up as much as possible. Intersperse the sight of your face on the screen with short video segments, and use a video projector or document camera to show illustrations or draw pictures. Give the audience frequent breaks -- at least five minutes each hour, and longer breaks at mid-morning and mid-afternoon -- and allow for off-air time, when you give them off-camera exercises to do.

Be creative. Have sites prepare exercise solutions and fax them to you in the studio, where you can put them up on the screen and share them with others. Encourage sites to talk to each other, and encourage participants to talk to you. Remember, variety increases your chances of having an attentive class; avoid the "talking head" syndrome.

If you plan to project graphics over the network using a document camera or scan converter (which converts the output of a PC so that it can be shown on a TV), follow these guidelines. *Minimum* type size should be 36 point, and all graphics should be printed on matte finish paper -- no gloss. Line art should be black and white, uncluttered, simple. Remember, the typical participant will be watching the show on a 21-inch television set from a distance of *at least* ten feet. Detailed pictures are a wasted effort. Instead, have

multiple copies of each graphic and use a heavy, black felt-tip pen to enhance the drawing by hand as you speak to the illustration. This is a very effective technique for gaining the participant's attention. One last tip: check with the director whether graphics should be printed vertically or in landscape orientation. Requirements differ between devices. It is highly likely that studio personnel will have a PowerPoint template for you to use that is "TV-Safe" -- meaning that it shows the areas on the slide where content must be placed to appear properly on TV.

Television can be an extremely effective delivery medium if the presenter is adequately prepared for the "culture shock" that usually accompanies a broadcast. Proper support from the television technical staff, absolute familiarity with the material, and comfort with the technology in the studio are requirements for a successful broadcast.

Other Considerations

In addition to broadcast video, a number of other delivery media are commonly used as an alternative to a live presentation. These may include conference calls, posting the materials on a Web site, or distribution of a PowerPoint presentation via e-mail. Unfortunately, these techniques often fall short because of a few

minor issues that can be easily remedied. They are described below.

- ◆ Do not use these techniques for the presentation of highly technical or overly complex material. This type of information benefits greatly from the use of visual presentation components combined with an instructor, and is therefore not effectively presented using virtual presentation techniques.
- ◆ To the extent possible, limit the number of participants if the selected medium is a Webcast or telephone conference call. If the audience becomes too large, effective question-and-answer interaction is hampered.
- ◆ Prepare handouts and *make sure that they are in the hands of all attendees at least a day before the actual presentation*. This will ensure that attendees have ample opportunity to review the content and prepare questions in advance.
- ◆ Handouts should be carefully sequenced, and should answer the following questions:
 - ◆ What is the purpose of the presentation?
 - ◆ How long will it last?
 - ◆ Who is the intended audience?
 - ◆ What is the mechanism for follow-up, should questions arise after the presentation?
- ◆ Handouts should be designed so that major discussion points are presented in a logically isolated fashion. In other words, do not use slides that present multiple ideas or concepts. It is better to use more simple slides than fewer complex ones.
- ◆ Avoid overly complicated diagrams that are difficult to understand. Remember that the audience does not have the benefit of an instructor at the front of the room, holding their hands as they go through the material.
- ◆ Make it a point to build natural break points into the presentation to allow attendees to ask questions. In fact, it isn't a bad idea to seed the audience with "plants" who ask prepared questions to get things flowing.
- ◆ Do not run over the advertised time interval. Make it clear that the presentation is over at a defined time, but that you are willing to stay on the line to discuss anything that the audience wants to discuss.
- ◆ Coach moderators to speak clearly and enunciate. Where possible, the moderator should not use a conference call to originate the discussion; a telephone handset or headphone yields much higher-quality voice.
- ◆ If collateral materials are to be made available (highly recommended), include a clear description of what they are and where they can be found. For example, if information is to be included on a Web site, be sure to include the URL of the site in the presentation materials, and discuss what the students will

find there (and the value of the information to the participants).

- ◆ If possible, offer the presentation more than once.
- ◆ If the presentation will be delivered to an international or multinational audience, be sensitive to the fact. Use country-specific examples and units of measure, and pay attention to national holidays.

About the Author

Steven Shepard is the president of the Shepard Communications Group in Williston, Vermont. A professional writer and educator with 20 years of varied experience in the telecommunications industry, he has written books and magazine articles on a wide variety of topics. He is the author of *Telecommunications Convergence: How to Profit from the Convergence of Technologies, Services and Companies* (McGraw-Hill, New York, 2000); *A Spanish-English Telecommunications Dictionary* (Shepard Communications Group, Williston, Vermont, 2001); *Managing Cross-Cultural Transition: A Handbook for Corporations, Employees and Their Families* (Aletheia Publications, New York, 1997); *An Optical Networking Crash Course* (McGraw-Hill, New York, February 2001); *SONET and SDH Demystified* (McGraw-Hill, 2001); and *A Telecommunications Crash Course* (McGraw-Hill, New York, October 2001); and *Telecommunications Convergence, 2nd Edition* (McGraw-Hill, February 2002). *Videoconferencing Demystified* will be released in April followed by *Metro Networking Demystified* and *A Telecomm Regulation Crash Course*. Steve is also the Series Advisor for the very successful McGraw-Hill *Portable Consultant* books.

Mr. Shepard received his undergraduate degree in Spanish and Romance Philology from the University of California at Berkeley and his Masters Degree in International Business from St. Mary's College. He spent eleven years with Pacific Bell in San Francisco in a variety of capacities including network analysis, computer operations, systems standards development, and advanced technical training, followed by nine years with Hill Associates, a world-renowned telecommunications education company, before forming the Shepard Communications Group. He is a member of the Boards of Directors of Circus Smirkus, the Regional Educational Television Network, Proximity Systems, Inc., and a member of the Board of Trustees of Champlain College in Burlington, Vermont. He is also the Resident Director of the University of Southern California's Executive Management Program in Telecommunications and adjunct faculty member of the University of Vermont, Champlain College and St. Michael's College. He is married and has two children.

Steve specializes in international issues in telecommunications with an emphasis on convergence and optical networking; the social implications of technological change; the development of multilingual educational materials; and the effective use of multiple delivery media. He has written and directed more than 40 videos and films and written technical presentations on a broad range of topics for more than 70 companies and organizations worldwide. He is fluent in Spanish and routinely publishes and delivers presentations in that language. Global clients include major telecommunications manufacturers, service providers, software development firms, multinational corporations, universities, advertising firms, and regulatory bodies.