

Are Your Facilities Ready For High Definition Video?

By Frank Kelly

After years of hearing about high definition video, HD is finally here and it is a reality. Until now, high definition has made inroads into home theater but has been slower to gain acceptance in corporate boardrooms, educational institutions, and government organizations. Yet HD's impact on communication capabilities may be as significant as the introduction of color television. Although the cost of HD implementation is no more than standard definition equipment was only a few years ago, executives and IT departments must first understand this intriguing new medium and then determine how it can benefit their bottom line.



There are numerous misconceptions about the definition and implementation of HD video. For example, although high definition video is inherently wide screen (a 16x9 aspect ratio), many people confuse it with the images seen on a standard definition DVD. However, true high definition is packed with up to ten times the image resolution as standard definition, and therefore offers far greater potential for effective communication if the installation uses the right technology.

Another factor to consider is that recent advances in codecs using MPEG-4 compression make it possible for high definition to be transported via the Internet Protocol (IP). But most HD system manufacturers require at least 1 MB/sec of IP bandwidth per HD channel for effective use of a high definition system. This bandwidth needs to be in addition to your normal requirements for daily Internet communication. Is your infrastructure ready to handle that much traffic?

Current trends suggest one of the first uses for high definition communication will be HD video teleconferencing. It is predicted this application will grow far beyond today's combination of live conferencing on-screen images with graphics and PowerPoint presentations. However, one must realize that consumer HDTV sets may not be sufficient for your needs since most of them cannot accept a computer-generated VGA signal. Make sure that your videoconferencing systems are using high-resolution, commercial grade plasma displays, LCD displays and/or projectors that are native 16x9.

Redesigning your conference rooms will also allow you to take advantage of the density of the high

definition image. Since the optimal viewing distance for a 50" HD plasma display is 9.8 feet, the long rectangular conference tables would be better used if rotated sideways before the screen so even viewers at the ends of the table will not have to squint at the images. The wider screen of the HD videoconferencing system can be more fully utilized by a table that is wide rather than long. In addition, high definition video inherently brings with it full frequency, multi-channel sound. Speakers need to be situated around the room so all participants can enjoy its clarity.

High definition video is still a rapidly evolving technology. Most broadcasters send an interlaced 1920x1080 signal to home HDTV sets, but the systems used for corporations, schools, or government installation rely on the more bandwidth-efficient 1280x720 progressive display. Although indistinguishable to most viewers, understanding the differences in high definition technology is crucial to the successful implementation of a HD communication infrastructure in your organization.

As you begin to determine if your facilities are ready for high definition, a partnership with a top video systems integrator and an on-site demonstration of the latest HD technology will help you understand and capitalize on the advantages of high definition video.

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