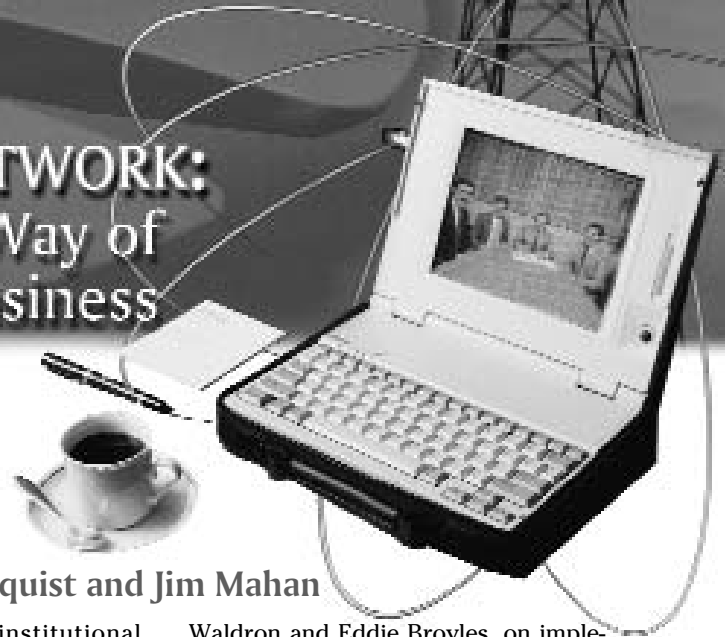


THE BOP'S VIDEOCONFERENCING NETWORK: A Cost-Effective Way of Doing Business



The rapid growth of the Federal Bureau of Prisons has been driving the push to be innovative and explore alternative technologies that allow the agency to use resources more effectively to expand services. In conjunction with the increasing inmate population, an environment characterized by tightening budgetary constraints has made it essential to use this business model to maximize the use of available staff and financial resources. Videoconferencing is one of the solutions enabling the BOP to expand the abilities of its work force and save financial resources.

The BOP was able to save \$8,600 in five days using its new nationwide videoconferencing network. Seven staff members from around the country were able to video-link into the central office and join five other staff members for a three-day video meeting. In doing so, the BOP was able to avoid travel, hotel, car rental and per diem costs that would have been otherwise incurred.

With 70 facilities and more than 80,000 inmates, this is no longer the BOP of 1992. Federal corrections is a growth industry with an inmate population that has more than doubled in just more than 10 years. Within another few years, the BOP will have nearly 120 facilities. This unprecedented growth has, therefore, affected every area of the organization.

Establishing a Network

The BOP has been interested in videoconferencing since the early 1990s. It was during this time that the BOP's Office of Security and Technology began to evaluate video court arraignment as a method to reduce

By Robert J. Palmquist and Jim Mahan

costs while improving institutional security and staff safety. This first system was the size of two large footlockers and cost almost \$100,000.

In the mid-1990s, the BOP initiated another videoconferencing evaluation. This pilot of mental competency hearings connected the bureau's psychiatric medical center and the local district federal court. Again, the technology worked well; both the court and the medical center immediately realized the benefits of not having to transport an inmate with mental health issues an hour away to court. The second system was in a large push cart with a television monitor sitting on top, and cost about \$45,000.

Between 1996 and 1997, the BOP, the Department of Defense and the Veterans Administration joined forces to evaluate the effectiveness of videoconferencing for medical purposes. The evaluation quickly proved to be cost-effective and medically beneficial for use across several specialties. An independent evaluation confirmed that telemedicine could deliver quality health care in correctional systems. In 1999, the National Institute of Justice published *Telemedicine Can Reduce Correctional Health Care Costs: An Evaluation of a Prison Telemedicine Network* by Douglas C. McDonald, a report of a telemedicine evaluation involving several BOP facilities. This study and the subsequent follow-up report, *Implementing Telemedicine in Correctional Facilities* by Peter L. Nacci, C. Allan Turner, Ronald J.

Waldron and Eddie Broyles, on implementation strategies for videoconferencing provided further impetus for the BOP to move forward in establishing a nationwide videoconferencing network.

In early 1999, the bureau approved the implementation of its nationwide Telehealth program, the stated objectives of which were to "provide the necessary telecommunications infrastructure, equipment and training for all Bureau of Prisons institutions to activate, operate and maintain a Telehealth network." Since that time, the BOP has expanded the use of videoconferencing technology with applications to meet the requirements of multiple components or tasks within the organization, including institution disciplinary hearings, judicial proceedings with federal and state courts and some staff training in various disciplines. Initially, all institutions using videoconferencing systems were connected via dial-up digital circuits, either ISDN (Integrated Services Digital Network) or Switched-56. The most significant problem associated with using these commercial circuits was cost. These included expensive installation charges, monthly recurring line charges (regardless of usage) and expensive per-minute usage charges.

Feasibility Study

In September 2000, the BOP established an executive-level work group to conduct a review of the potential uses of videoconferencing and to

develop a plan to effectively use videoconferencing on a nationwide basis to accomplish multiple functions, with a continued emphasis on using videoconferencing for health service-related issues. The work group initially determined that there was a significant need for videoconferencing capabilities throughout the organization. However, there was no agreement on how to best provide a highly reliable and effective videoconferencing service to all facilities. It was decided that an independent organization specializing in the analysis and design of telecommunications infrastructure should be contracted to conduct a feasibility study. This study would focus on state-of-the-art commercial off-the-shelf technology that is readily expandable to meet future growth requirements; assures standardization and interoperability with existing and future BOP systems; guarantees reliability and ease of maintenance through use of market proven components; and maximizes return on investment and minimizes life-cycle costs.

The U.S. Navy engineering facility in Crane, Ind., was selected to complete the study. This facility had demonstrated expertise in engineering for voice, data and video communication technology for several federal and state agencies, most notably, its design and implementation of the Distance Support Project for the U.S. Navy, which provides communications via those three modalities between U.S. Navy ships and shore installations. The Distance Support Project currently provides the majority of all training via videoconferencing between naval ships at sea and shore installations.

During the course of the study, the Navy communication engineers visited numerous federal correctional facilities, including several medical centers, and were provided the opportunity to observe inmate and staff involvement in relevant tasks, such as psychiatric video consultations and administrative disciplinary hearings. This study for the BOP was completed in early 2002.

Concurrent with the Navy study, the executive work group visited numerous federal prison facilities and regional offices to interview staff regarding the need for videoconferencing support. One common theme sur-

facied throughout interviews with the BOP staff expected to use videoconferencing: It was viewed as potentially providing significant cost avoidance opportunities in several areas. The ability to use videoconferencing for probation and parole hearings, minor court appearances for civil trials, medical services, disciplinary hearings and consultations with various religious clerics was viewed by staff as providing a mechanism to improve the overall operation of a correctional facility. Universally mentioned concerns included how to coordinate the use of the video technology by different staff and functions and the potential disruption of service when the technology is not working correctly.

The work group concluded that video teleconferencing could be used throughout the organization as a tool to enhance correctional management by improving the staff's ability to control the environments in which offenders have access to the public and to save financial resources.

Addressing Issues

One of the key issues for the work group was providing a videoconferencing network that would enable staff from all disciplines to use the technology. Additionally, it was necessary to provide centralized management so end users would have the capability to use the technology without the problems of managing the video communications network. The overall success of a nationwide videoconferencing network required that the complex assortment of communications components and devices be monitored for any performance issues yet remain transparent to the end users, while providing them a highly reliable video service.

Centralized oversight and management of the nationwide video network became key to supporting the critical day-to-day mission of the BOP. Of equal importance is an automated process to schedule videoconferencing calls. All too often, videoconferencing becomes more of a burden due to the complexity of call setup, troubleshooting and call breakdown. Line managers and staff should not need to acquire new skills to use a videoconferencing network. Videoconferencing should be as easy as point and click,

and it was the responsibility of the work group to provide an effective, overall plan.

Before final approval and funding could be authorized, the last issue to be resolved was the determination of which of the two primary communications methods would be used. The choices were the time-tested, but expensive ISDN or the newer, but more flexible Internet Protocol (IP).

ISDN is an international communications standard for sending voice, video and data over on-demand, dial-up telephones that are highly tuned to handle voice and high-speed data and video communications. While these circuits can be routed through a facility's in-house telephone switch and share those resources, the ISDN termination point in the facility is fixed at a single location. It is difficult and expensive to relocate to another location. Establishing a second location at a facility would require that the local telephone company engineer a new circuit into the facility through a telephone switch in addition to installation at the new location. This could take more than 90 days and cost up to \$3,000.

IP is based on the very open communications architecture that brings the Internet to most every home and office in America. New links or drops can be added very quickly and inexpensively, with literally hundreds of drops at a single facility used for any combination of voice, data or video communications.

When comparing usability, IP's performance exceeds that of ISDN solutions. Currently, IP-based videoconferencing networks are more cost-effective and provide far greater flexibility than ISDN. Video teleconferencing has always had the potential to save both public and private sectors significant financial resources while improving productivity by providing geographically dispersed facilities or offices a valuable communication and collaboration tool. Flexibility and availability are critical to this success.

The work group determined that in order to minimize the cost of video teleconferencing, an IP solution using the BOP's current local area and wide-area networks' infrastructures would be developed. The plan would use the BOP's current local area network and enhance its private nationwide wide-area network infrastructure to concur-

rently carry the BOP's data and video communications.

Implementation was to occur in three phases. The first would involve enhancing communications at every institution, administrative office and training center with equipment necessary to use IP communication for videoconferencing. The second part

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would involve installation of a central bank of 15 ISDN lines that could be shared by all video users to get dial-up access to outside video sites not on the bureau's network. The final phase would include removal of hundreds of older ISDN communication lines from BOP facilities with the expectation that the agency would begin to realize the financial savings of removing these circuits costs.

Two companies were ultimately selected to provide the major components needed to establish the BOP's videoconferencing IP solution: Cisco Systems provided the networking hardware and Forgent Networks provided the video network management and scheduling software. The wide-area network upgrade was designed and implemented by staff from the Department of Justice and the BOP National Networking Group.

Actual implementation of the IP Video Conference network began November 2002. By the following February, 55 field sites had been connected to the network and were conducting daily conferences in telemedicine and telepsychiatry, training and general business meetings.

Conclusion

After spending more than 10 years exploring numerous proposals and conducting evaluations, the BOP is about to complete the installation of a fully operational, completely interactive, high-quality videoconferencing network that is expected to become as

useful and integral to operations as the telephone. Today, a video system can cost less than \$5,000 and sit on top of a computer monitor. Although the bureau's current system is only available in the medical office or at a facility's main conference room, it is expected that, in the very near future, videoconferencing terminals will be available throughout a correctional facility. The technology is already available to allow videoconferencing from an individual's desk using a stand-alone unit or one that is integrated into a desktop computer.

The BOP continues to look for cost-effective solutions to improve its way of doing business. This phase of its videoconferencing network is expected to become the platform for future technologies that will further enhance the BOP's ability to ensure a safe correctional environment using optimally cost-effective solutions.

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Corrections Calendar

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■ **NAADAC**, the Association for Addiction Professionals, Annual Conference, "Advancing the Addiction Profession: Facing Today's Challenges," Sept. 14-17, Washington, D.C. Contact NAADAC at 1-800-548-0497; or visit <http://naadac.org>.

■ **American Correctional Association**, Workshop, "The 'X' Files: Understanding, Managing and Retaining the Generation X Correctional Worker," Sept. 25-26, ACA, 4380 Forbes Blvd., Lanham, MD 20706. Contact Marie Hinton at (301) 918-1874; marieh@aca.org.

■ **Kansas Correctional Association**, Annual Conference, "Thirty Years of Commitment: Building a Stronger Future," Sept. 28-Oct. 1, Topeka, Kan. Contact Jim Terrones or Mark Trivilino at (913) 764-7411; jim.terrones@jocoks.com; mark.trivilino@jocoks.com; or visit www.asca.org.

■ **Wisconsin Correctional Association**, 2003 Annual Conference, "Thinking Outside the Bars," Sept. 29-30, Marriott West, Madison, Wis. Contact Dick Taddey at taddyb@ticon.net.

■ **Colorado Correctional Association**, Oct. 5-8, Beaver Creek, Colo. Contact Brent Parker at (719) 269-4213; or visit www.ccja.net.

■ **Michigan Corrections Association**, Fall Conference, "Incorporating Restorative and Community Justice Into American Sentencing and Corrections," Oct. 14, Boyne Highlands Resort, Harbor Springs, Mich. Contact the Rev. John Niemela at 1-800-455-9906; or visit <http://communities.msn.com/MichiganCorrectionAssociation/homepage>. ♦