

Converged Networking: “Multimedia in the Court!”

When the Bernalillo County Metropolitan Court moved into its new \$67 million courthouse in Albuquerque, New Mexico, the building was already wired for phones and computers. That’s not surprising. What’s more unusual is that the nine-story courthouse was also set up to accommodate video conferencing and digital audio recording. And that all the these communication streams—voice, data, video and audio—travel simultaneously over the same cables.

It’s called a converged Internet Protocol (IP) network. Instead of incurring the cost of installing, managing and maintaining separate systems, Bernalillo County Metro Court now communicates over a single infrastructure that uses the same IP technology that powers the Internet and Web.

Cities and counties are increasingly turning to converged networks to keep costs down and take advantage of innovations such as unified messaging (for example, text-to-speech conversion for listening to e-mails over the phone) and sophisticated call centers that help facilitate interactions between government and constituents.

Agencies have discovered that they can implement these enhancements with greater ease and economy when they are part of an IP-based digital telephone system, also known as IP telephony or voice over IP. The Bernalillo County Metro Court not only benefits from unified messaging and a 10-agent contact center, it has taken convergence one step further by making teleconferencing and audio recording a part of its multimedia network mix.

“As we were planning the new facility, we knew we wanted a converged network,” says Paul Roybal, Metro Court’s director of information technology. “In addition to voice and

data, we intended to run video over the network for arraignments, bonding and interviews. To achieve these goals without a converged network would have easily doubled our cable costs, and our ongoing support and management expenses would have been higher, too.”

New Mexico’s busiest court, Metro Court handles criminal, civil and traffic cases and some 3,000 visitors a day. The courthouse works closely with the Metropolitan Detention Center, which is located 17 miles away. Before the video capability was implemented, inmates had to be transported between the two facilities for court-related activities, tying up valuable resources and creating possible security problems.

Now an inmate can “appear” before one of the court’s 16 judges at a video station for a pretrial arraignment, bond hearing or other judicial matter without physically leaving detention. “The inmate sees both the judge at the bench and the district attorney in the courtroom on a split screen.” Roybal explains. “Two video cameras can be controlled locally or remotely to pan, tilt or zoom.”

Digital audio recording is another key benefit of the converged network. In the past, a court reporter had to sit in each courtroom to ensure that the proceedings were being accurately taped for transcription. Now every courtroom is wired for sound, and court proceedings are digitized and transmitted to a central area where clerks can monitor up to four trials at once.

Metro Court’s converged network is based on Cisco Systems switches, IP telephone systems, and firewalls. As the diverse traffic traverses the network, switches located throughout the building deliver the communications in the form of labeled IP packets to their proper destinations. The switches assign higher priority to the more delay-sensitive voice and video traffic to ensure audio and picture quality. The firewalls, in addition to providing protection from hackers, also set up virtual private networks (VPNs) for secure connections to other county, city, state and justice offices.

To give judges, attorneys, jurors and security personnel access to the network wherever they are in the building, Metro Court has integrated a SpectraLink Corp. wireless local area network with the Cisco equipment. Now everyone can link their laptop PCs wirelessly to the Internet just as if they were at a cyber cafe “hotspot.” “We’ve found a way to mitigate lost productivity while people wait to be selected for a jury, and we’ve also increased the effectiveness of judges and lawyers inside the building ,” says Roybal.

Roybal estimates that the IP network has saved Metro Court \$14,000 per month in recurring telephone expenses alone, compared to the private branch exchange (PBX) the court had used previously. And court administrators’ concerns about moving from the PBX to an IP-based system have disappeared. “Our network is more stable, redundant and disaster-proof than ever before,” Roybal observes. “We’ve achieved 99.999 percent availability as a result of greater capacity and redundancy.”

Moving forward, Roybal and his team anticipate expanding the converged network’s capabilities still further to include security monitoring. Security cameras can be installed anywhere there is a network connection. And they can be monitored centrally just like any other network device.

“Other state agencies are inspired by the success of our network,“ concludes Roybal, “which can ultimately mean an outstanding return on taxpayer investment.”

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