



Photo courtesy of Christie Digital Systems

American water flows data

Crestron helps water utility manage operations and prepare for the future using AV

The Challenge

The largest publicly traded water and waste utility company in the U.S. was contemplating how to transform the way it monitors and manages security. The importance of viewing data was at the top of the list. Initial thoughts were that two spaces – an expansive control room with a large video wall and a smaller conference room with fiber connections between them – would best suit this objective.

To bring this plan to reality, a large digital video wall was needed in the control room. This video wall had to display feeds and screen layouts that could be easily integrated, customized, recalled and shared, from multiple locations and multiple sources, with high accuracy and reliability.

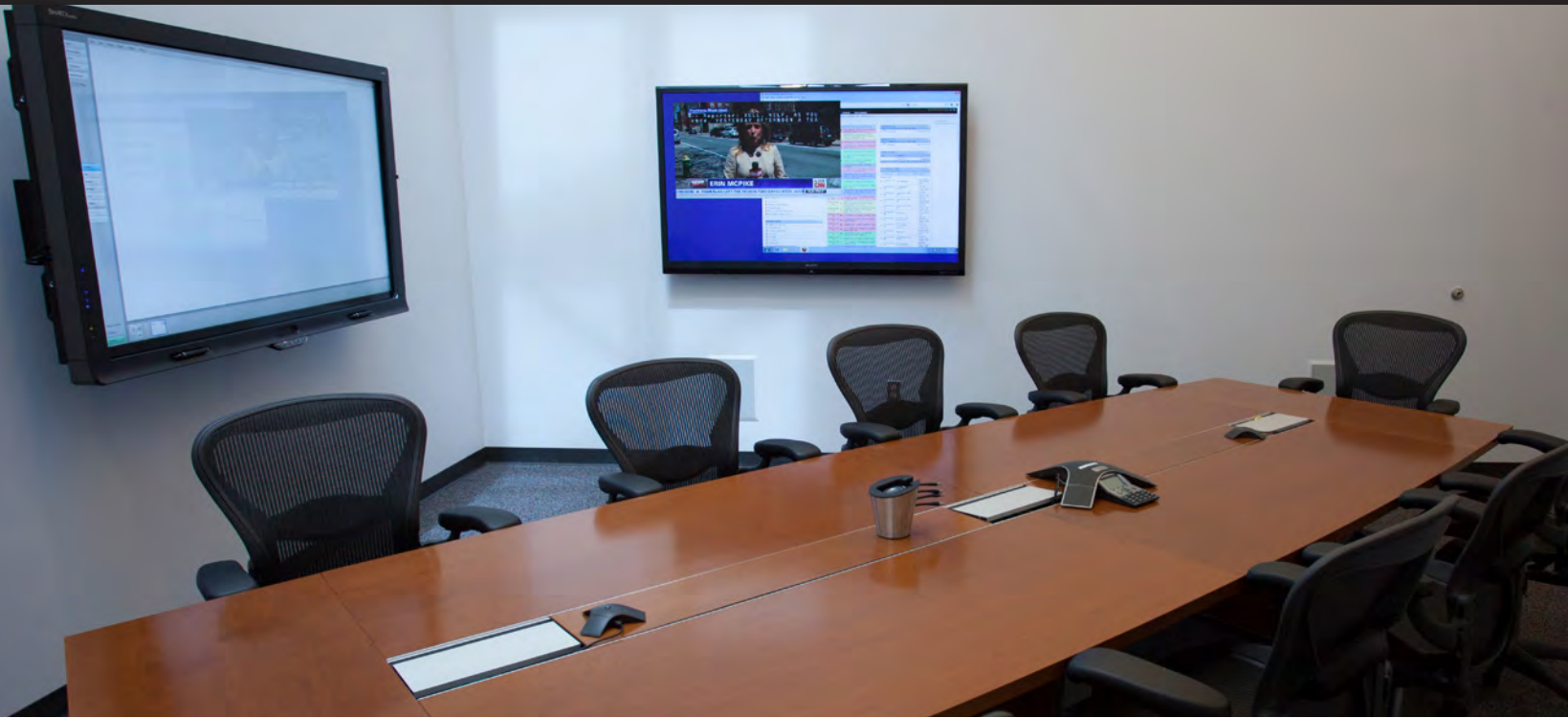
American Water's 6,700 employees supply water and water services for an estimated 14 million people. ClassCraft AV and American Water embarked on a nearly two-year process of looking for the right components to build a control room environment that would let them operate efficiently in a data-

rich environment and also position them for an expected avalanche of information in coming years.

"The number of sources they wanted to access and display was growing," recalled Michael Class, President of ClassCraft AV, the integrator retained to help guide American Water through the process. "They have to cover operations in 22 states and be able to pull in a wide range of information sources, from water level, pressure and flow data from a huge number of sources, to real-time television news to monitor how emergency situations in different areas were being covered, using broadcast, cable, satellite, internet and other sources. All of this had to be displayed in an understandable way and be constantly refreshed."

The Solution

The solution was the integration of three key systems: the first installation of Christie's new Phoenix system, a network-distributed, open content management system for



simultaneous encode, decode and display of audiovisual data; Barco's ClickShare, a collaboration system that allows content to be wirelessly transferred between displays, and Crestron Fusion™ enterprise management software to monitor and manage AV equipment, BMS, room scheduling, lighting, shades and other systems.

These systems work across the two main spaces. A 3000 square-foot main control room handles nationwide security and systems monitoring. It is fitted with a huge 32-foot-wide by 13.7-foot-high video wall composed of 21 Christie 55-inch LCD flat panels. An 800-square-foot conference room uses a 70-inch SMART Board interactive display and a Sharp 70-inch LED display.

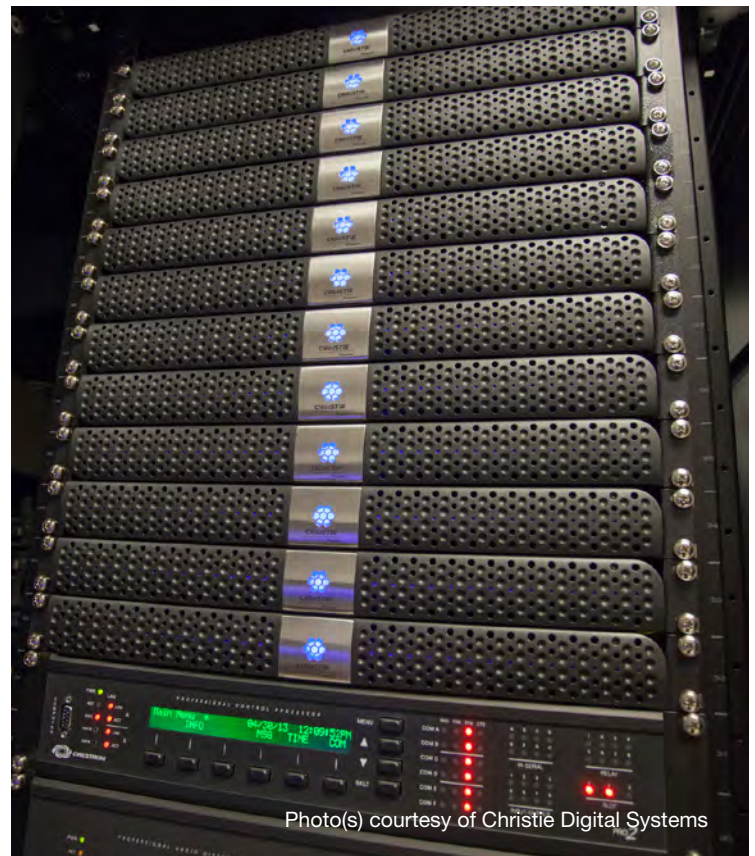
The Phoenix video wall system dominates the main control room. Thanks in part to the display's narrow bezels, the wall can be configured to display video from any of the multiple sources collected from the Phoenix's 12 nodes. These sources include various physical and digital sources throughout the service area such as streaming video and audio, desktop captures, online information, cable television and facility systems.

The rack mounted nodes aggregate the information, including audio, and transfer it directly to the display. This minimized cabling and eliminated the need for a DSP to synchronize sound and picture. It also helped contribute to the project's relatively low \$400,000 approximate cost.

Audio is distributed to both rooms using Crestron Excite in-wall speakers and a pair of Crestron AMP-2210 audio amplifiers. Four speakers are spaced across the top of the video wall, with two more embedded in the conference room walls. Each room is a separate zone which allows the same

audio to be played in both rooms, or the conference room audio can be separated for confidential meetings.

The Crestron CNX-PAD8A audio distribution processor enables all audio sources to be routed to the control room sound system or to the conference room sound system. Volume in the control room is controlled from a computer using Crestron XPanel software, and in the control room from the TPMC-4SM touch screen.



Photo(s) courtesy of Christie Digital Systems

In Control

The Crestron control system, which ClassCraft AV has installed in other areas of the facility for room control applications, controls both rooms. However, this is the first use of Crestron Fusion RV® room scheduling software within the system. Wall-mounted TPMC-4SM touch screens control audio, lighting, power toggle for the wall, room scheduling, conference room controls and Fusion RV room scheduling.

“We used the Fusion RV server and two TPMC-4SM touch screens located outside of both entrances of the conference room,” Class explained. “This provided the ability to schedule meetings on a web-based interface and from the touch screens. It also proved the ability to show room occupancy status locally.”

Illumination control extends to automated shades for a large skylight in the main control room. The other shade system is located outside the conference room. Shade control is used for conference privacy and energy savings. Part of a larger green component to the project, the need for air conditioning was minimized by including only the operators at the seven stations in the control room, their television monitors and the video wall within the control room, and having the server room take the full heat load.

The flat panels can also be toggled on and off to extend their life and reduce electricity usage. To reduce energy costs and system wear and tear, the Crestron system is programmed to automatically turn on the video wall and related systems at 8:00 a.m. and off at 5:00 p.m.

However, American Water plans to move to a 24/7 schedule in the near future. Crestron Fusion scheduler can automatically run half of the video wall for seven hours and the other half for eight hours. This provides downtime for all panels, conserves equipment life, and saves energy for after-hours shifts that have fewer operators on duty.

Work stations

Any of the seven three-screen desktop workstations in the control room can bring up images or information from its own center screens onto the main video wall and position it as desired. It can also set up and save screen configurations.

For instance, each state that American Water operates in, from New Jersey to Texas, might have its own “scene” which may include a digital map showing key locations, data from critical water facilities, and local news and weather stations. All of this content can be queued up together quickly, in

preset relationships in terms of placement and relative size. It can also be reconfigured as needed. IP-sourced data is constantly refreshed automatically, so the content on the screen is always current.

Results

The mission-critical nature of the control room and its data management has become more important as droughts and periodic flooding continue to increase. The control room system had to work flawlessly and it became quickly apparent that the new system would meet the facility’s high demands.

Shortly after the launch of the control room, there were reports of flooding in the Midwestern states. American Water was able to monitor the flooding and quickly create layouts, providing plant operations with the necessary situational awareness plans, while meeting the goal of delivering real value to its customers.



Photo courtesy of Christie Digital Systems



Photo courtesy of Crestron

All brand names, product names and trademarks are the property of their respective owners. Certain trademarks, registered trademarks, and trade names may be used to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others.

©2013 Crestron Electronics, Inc.

crestron.com | 800.237.2041

CRESTRON