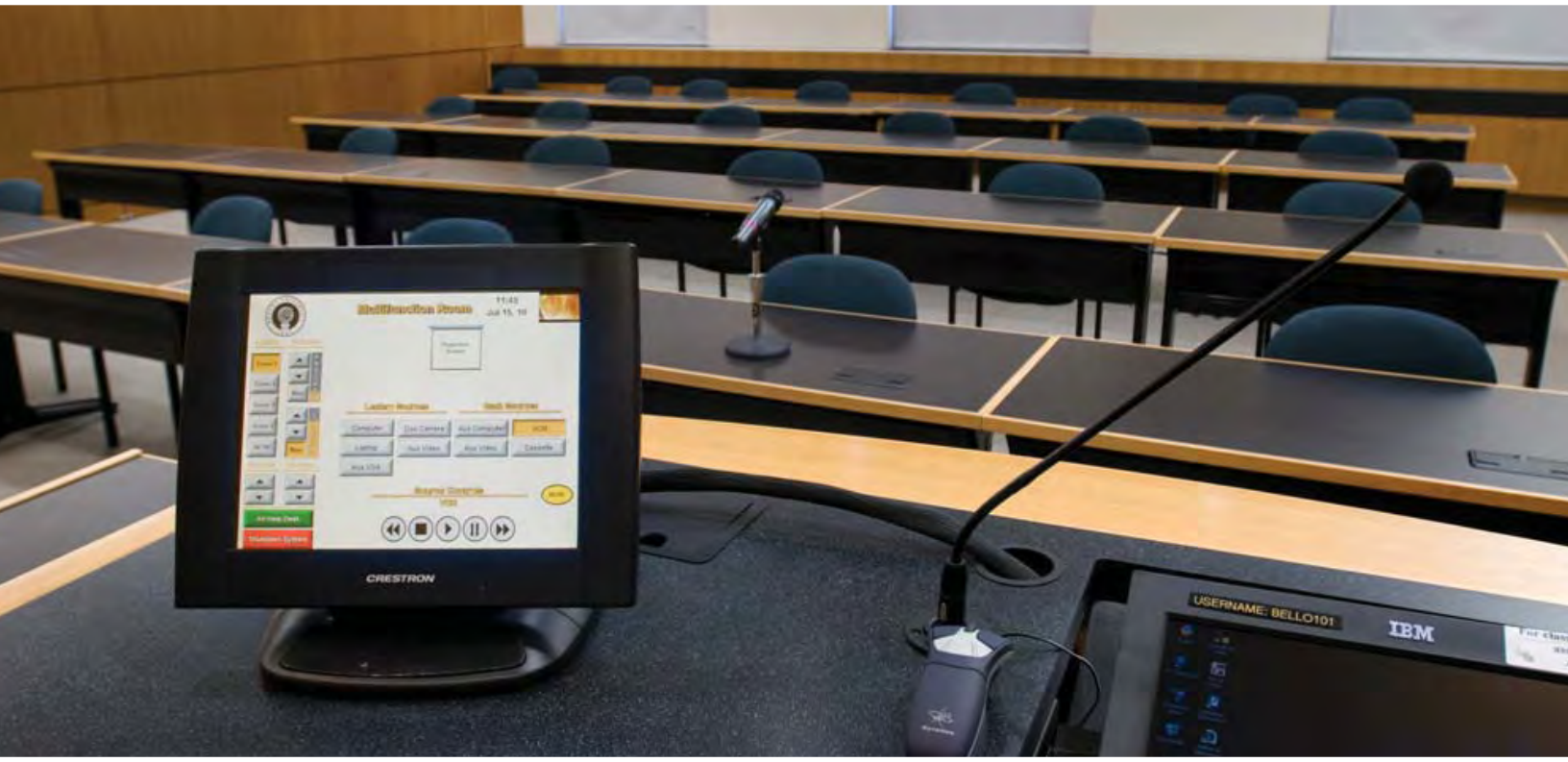
Bryant University

Smithfield, Rhode Island

Education



Green AV that Works

Private university ties AV systems to Crestron occupancy sensors

Background

Located in Smithfield, RI, Bryant University is a small but highly respected private university offering degrees in business, math, biology and other arts and sciences.

The Challenge

In 2007, the university began a green initiative which, so far, has been able to reduce the amount of energy used on campus by over 35 percent – a savings of more than $20,000 per year.

Bryant University Media Services Analyst, Jason Gregg and the IT staff hoped to extend those savings through greater efficiencies in the university AV systems.

"We knew that end users had been leaving the AV systems on in nearly half the classrooms for two hours or longer each day, and we set out to cut that time dramatically," notes Gregg.

Gregg and systems integrator, HB Communications discussed tying motion sensors into the AV system controls, so that the systems shut down if no one moves in a classroom or conference room for 30 minutes.

"We're constantly trying to figure out ways to make our systems as power friendly as possible," he explains.

The Solution

Just over a year ago, Gregg began experimenting with Crestron occupancy sensors, adding them to five classrooms during the spring term.

"They seemed to work very well. We had no complaints from users that the systems were shutting off early, and we confirmed that they shut off as programmed. So next we deployed 20 more rooms," he notes.

"We had to prove that the money spent on the sensors was worth the cost. We put power recorders on a test system and recorded the amount of power used, as well as how often it was left on with no one in the room. With this test, we figured out that the sensors would pay for themselves in only one year."

At the same time, Gregg installed Crestron RoomView™ remote management software, adding asset management, anti-theft and helpdesk functions to each upgraded classroom.

Systems at a Glance

Depending on the size of the room, IT technicians ceiling-mount a Crestron GLS-ODT-C-500 or GLS-ODT-C-1000 occupancy sensor, and Gregg programs the Crestron MP2E or PRO2 control system to shut the AV system down after 30 minutes of no motion.

"We have also set the projector in each room to shut down after 10 minutes of no signal and, as a failsafe, RoomView sends a System Off signal at 10:30 p.m. each day," Gregg adds.

To fully implement the system, staff must add a controllable power supply to each rack. When a user pushes the System Off button or the sensor sends a System Off signal, the system shuts off the projector, raises the screen, and, via the controllable power supply, shuts down the power to selected components in the equipment rack.

"The biggest power hogs are the projectors, so we shut them off right away," Gregg explains. He also sets the system to shut down flat-panel displays, amplifiers, DVD-VCRs and document cameras. "The Crestron processors stay on, so we can see the system in RoomView, but they don't take much power in standby mode." Gregg says they only have four or five audio processors on campus, and so far they are keeping them on, as they would need to sequence them on a little earlier than the rest of the system in order to load all their settings properly. They also leave their video conferencing codecs on.

"We've also started to use Crestron XPanel with Mediasite," Gregg notes. Bryant currently owns two Mediasite Live rich media systems, which they use to record classes and post them for student access on a video-on-demand server. "Using XPanel to access the control systems, one student operator here in the office can control the cameras for two or three classrooms."

By the end of August 2011, more than 100 AV systems on campus were upgraded. “We still have a couple of stragglers, but only because they don’t have control systems,” he explains. “We will put those in soon.”

Benefits

Gregg says that the system upgrades have changed some behaviors on campus for the better.

“We have professors who would go into their classrooms at 7:00 a.m., turn on the whole system, and then leave until 8:00 a.m. when their classes began. Now they’re finding those systems have turned themselves off. Some complained, but once we explained that it’s wasteful to leave a system on for an extra hour, they understood.”

In much the same way, internal discussion of the changes has prompted other instructors to begin turning their systems off at the end of class, rather than waiting for the system to turn off automatically.

Gregg based his ROI estimates on saving one hour of AC supplied to about 40% of the projectors on campus each day. In reality, however, the projectors are shutting down now after only 10 minutes and most other components in about 30, unless, of course, instructors shut them down with no delay. Gregg also expects lamps to last longer with the projectors running so much less.

The savings will continue to increase. Gregg says he has begun buying Crestron’s new energy-efficient amplifiers to replace older units. “Our old amplifiers draw power whenever the system is on, but the new Crestron amps cycle on only when they get a signal.”

The system upgrades have proven popular. “The users here at Bryant love all these power management features and promote them to their students and other faculty,” Gregg says.