University of Nevada, LV

LAS VEGAS, NV

➡ Challenge

The top priority for Classroom Technology Services, a unit within Office of Information Technology at UNLV was to minimize "lost class time" due to real or perceived AV technology issues. This must be accomplished using minimum financial and human resources.

➡ Solution

Standardize on one AV distribution and control system. Use sophisticated monitoring tools to provide data to make calculated AV/IT and operational cost-saving decisions

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— **Scott Menter**
*Manager,
Classroom Technology Services,
Office of Information Technology,
UNLV*

Real-Time Data Helps Eliminate "Lost Class Time" and Prove ROI

Located on 332 acres in the heart of Las Vegas, the University of Nevada, Las Vegas (UNLV) has earned its stripes as an internationally recognized research university. Taking center stage, UNLV will host the final 2016 U.S. presidential debate in October.

But ensuring the AV systems run smoothly for its 28,600 students and more than 2,900 faculty and staff is a top priority of UNLV's Office of Information Technology (OIT). When Scott Menter, manager, Classroom Technology Services, OIT arrived at UNLV in 2010 it was his charge to build a department to eliminate lost class time.

If an instructor is unable to enter a classroom, lecture hall, or auditorium and have the room technology work immediately, this can translate to not only five or 10 minutes of lost class time, it can become a canceled class, Menter said. Upon his arrival, there were three different AV control systems that instructors had to maneuver.

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Building a Tight System from Within

Rather than contracting outside help, Menter said, "We invest heavily in staff training and professional development, and are lucky enough to have a Crestron training center three blocks away from us." With two Crestron DigitalMedia™ certified engineers (DMC-E), four InfoComm CTS-certified staff, and more on the way, the CTS team has AV and control system design, engineering, and programming expertise in house. "We can handle just about anything that comes our way, without having to go outside," he continued. Outside AV contractors were hired to install cable and equipment, rather than program and design.

"We do everything under the sun with our jobs, and then some," said Frank Alaimo, AV systems specialist, OIT. "I design the classroom systems that are in use for our general purpose classrooms, and facilitate and assist the departments on campus that have their individual classrooms." But Alaimo also performs the role of project manager, ensuring the planning construction department, the audiovisual integrator, and in-house programmers are on the same page so that rooms are completed as designed, and works with vendors.

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There are a few benefits to the proximity and close relationship with Crestron, explained Alaimo. "Any kind of equipment that's coming down the pipeline that's new—we get a chance to preview it; and we get a first crack at trainings, and seminars."

While getting his degree in Computer Science and Mathematics, Michael Theil, classroom control systems specialist, joined the OIT team in 2011. "A big part of my job is to take what Frank designs and actually make it work," said Theil. "So I design all the layouts, and do all the programming of Crestron."

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Standardization

Once the CTS team came together, they quickly standardized on Crestron DigitalMedia. Theil went to work at designing a simplified program that would incorporate various AV equipment and room technology scenarios on the backend, but would deliver one simple touch panel design. "This one program will actually cover many different scenarios. When we do an RFP or a bid we give a compiled program to the AV contractor to load it," Theil explained. "The same program works for a small conference room as it does for a normal classroom or a large auditorium that has no mics or three mics in a room. It basically works anywhere you put it."

Before standardizing on Crestron, it would take two integrators two days to install a classroom. "Now, they can do it in under eight hours because through Crestron you just have one cable that goes from the touch panel to the processor, one from the processor to the rack, and one from the switcher up to the projector," said Theil. "The biggest advantage of DigitalMedia is everything is going across one cable. That means the controls, audio, video, and Ethernet are going across one cable."

Faculty and staff have a common touch screen interface to operate classroom technology. This had an immediate and positive impact on classroom up-time. "And keeping with one standard — we're treating the system as an enterprise system, and not just individual systems in a classroom," said Alaimo.

UNLV currently has 92 Crestron DigitalMedia classrooms, an additional 32 planned to come online during the summer in 2016, with another 50 planned for the future.

Even More Classroom Up-Time

In June 2015 the CTS team added the Crestron Fusion enterprise management system to further increase efficiencies and really hone in on decreasing lost class time.

Instructors expect the technology to will work every time they walk into a classroom, Menter explained. "Crestron Fusion gives an overview of the status of the room before a technician is deployed. We can take control of the room remotely or diagnose the problem faster using the Crestron Fusion interface."

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In addition to the CTS team, approximately 10 students have been trained, and have the ability to log-in to Crestron Fusion, as well as use Crestron XPanels. These display a clone of what instructors are seeing on the classroom touch panel. "When an instructor calls with a classroom technology issue, using Crestron Fusion, we can figure out: 'Okay, are they having other problems? Is the audio system muted?' or, 'If they can't see anything on the projector is it pic-muted? Are there errors on the projector?' Now a lot of times they can fix it here without even needing to go down to the room, and that's just a 'wow' factor," Alaimo said. "You hear from the instructors on the other side of the phone, 'No, I can't hear anything,' so we press a couple buttons on our end and, 'Wow, it just works now. Thank you.' We all seem like wizards on this end."

Menter noted, "The emphasis is that we are reliable as well as functional for the instructor."

Data-Driven Decisions

In addition to minimizing lost class time, Crestron Fusion monitors and provides data on every piece of equipment and system that is it tied into. This

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— **Michael Theil**
UNLV

enables the team to manage equipment life cycles and see actual equipment usage.

Theil set up modules to enable Crestron Fusion to detect what AV input is selected, how long it's been selected, and how many times it has been selected.

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"Right now, we're going through a decommissioning of VCRs," said Menter. "So we were actually able to take the time, the date, how long, and who pushed the button on the VCR. We can back-track it through our 25live scheduling application and can find the instructor who actually uses the VCR, so I can directly email them and let them know the VCRs are going out of style."

In addition, Theil is able to push updated code and any layout changes to each of the rooms. "I can look at all 90 rooms that we have currently online on one page, and get all of the data information on rooms. It lets me know if there are any errors such as if a projector overheats or has lamp out. I know this often before the instructor even knows there is an issue."

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Real Results:
Data Shows Clear ROI

Most asset monitoring systems will send a notification when a projector lamp is due to be replaced. Crestron Fusion goes far beyond this by providing data that is specific to costly instances where projectors are left turned on when not in use.

"One of our biggest issues is that everybody puts the projector on 'mute', so it blanks the picture," said Menter. "Often, people who 'blank the picture,' think it's off and just walk out."

Theil created modules for Crestron Fusion to deliver data from each classroom projector and developed an auto shutoff system. After three hours of detecting touch panel inactivity, one hour of "picture mute," or 15 minutes of "no source detected," a warning will be displayed on the associated touch panel that the system will be shutting down.

The tables to the right illustrate how a significant savings in lamp and projector equipment costs can be clearly measured using data gathered through Crestron Fusion. Not calculated here, but also significant are savings in electricity, reduced labor cost due to replacing equipment based on usage data, and increased classroom uptime.

"Crestron Fusion gives us the ability to be proactive," Menter said. "It's not always what we do, it's what we can do."

Office of Information Technology (OIT), University of Nevada, Las Vegas
Scott Menter, CTS, DMC-D-4K, manager, Classroom Technology Services

Frank Alaimo, CTS, DMC-D-4K, AV systems specialist

Michael Theil, CTS, DMC-E-4K, classroom control systems specialist

ROI Snapshot: Projector Auto Shutoff
Below data is based on 50 UNLV classrooms reporting through Crestron Fusion.

Number of Instances of Projectors Automatically and Proactively Shutoff as a Result of Fusion Reporting

Type of Shutoff	8 Week Period	Projected End of Semester
Source Not Detected	366	839
Projector Mute	505	1,158
No Activity	91	208
# of Instances	962	2,205

Estimated Lamp Savings
(*Based on a $500 lamp rated at 3,000 hours*)

Type of Shutoff	8 Week Period	Projected End of Semester
Source Not Detected	$1,086.33	$2,485.00
Projector Mute	$1,090.67	$2,491.67
No Activity	$307.00	$694.00
TOTAL SAVINGS	$2,484.00	$5,670.67

Estimated Projector Savings
(*Based on a $4,000 projector, rated at 10,000 hours of life. Projector cost of $0.40 an hour.*)

Type of Shutoff	8 Week Period	Projected End of Semester
Source Not Detected	$2,607.20	$5,964.00
Projector Mute	$2,617.60	$5,980.00
No Activity	$736.80	$1,665.60
TOTAL SAVINGS	$5,961.60	$13,609.60

Equipment List
(*Q1 2016: 92 Crestron-controlled classrooms*)
Crestron Fusion®
Crestron 3-Series Control System®
Crestron DigitalMedia 8G™ Cable
Crestron DigitalMedia™ Presentation System
Crestron 7-inch, and 10.1-inch Touch Screens
Crestron 7.1 High-Definition Professional Surround Sound Processor
Crestron FlipTop™ Connectivity Panels and Power Modules
Crestron DigitalMedia 8G+® Receiver & Room Controller w/Scaler
Crestron DigitalMedia 8G+® Transmitter
Crestron Control® for Computers, XPanel Software

Photos and Crestron Fusion screen captures:
Courtesy University of Nevada, Las Vegas

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