

Senate of Virginia

RICHMOND, VA

CASE STUDY | GOVERNMENT

➔ Challenge

Build a rock-solid electronic system to capture and tabulate votes in the Senate of Virginia.

➔ Solution

Rely on custom-programmed Crestron technology, including a 3-Series Control System® and 44 Crestron touch screens.



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The Senate of Virginia

Building a Reliable, Secure Voting System with Crestron Technology

Problem: Because voting is the bedrock of American democracy, any electronic voting system must be reliable, always available, easy to use, and extremely secure. For the Senate of Virginia, these were the key criteria for a new voting system to register and tabulate votes, control the order of business, call votes, recognize speakers, and summon members and pages.

Decision Process: The Senate wanted a system that would give it better control over its technology. According to Jonathan Palmore, Senior Assistant Clerk, Technology, for the Senate of Virginia, “We really wanted complete control over the legislative mechanism, and we felt comfortable developing the application ourselves,” recalls Palmore. “The one thing we needed help with was the physical layer of voting—the part where our members would press a button, ‘yes’ or ‘no.’”

The search for a rock-solid solution led to ControlWorks, a Crestron Services Provider and supplier of Crestron-based voting solutions that has provided systems for close to two dozen city councils.

“We started working with the Senate while it was renovating its chambers,” says Lincoln King-Cliby, Commercial Market Director for ControlWorks Consulting, LLC. “They felt they could build a better system in house, and they began looking at Crestron technology.”



Implementation: Palmore and his team developed a Visual Basic application to prepare measures for voting, and then record and archive the ballots as the vote is closed. ControlWorks contributed the voting module, programming a Crestron 2-Series Control System to capture and tabulate votes and control the audiovisual systems. A third team member, the Whitlock Group, installed the Crestron system and the AV gear. The Crestron and Visual Basic systems communicate on a closed Ethernet network with no physical connection to the outside world.

Solution in Action: The primary use of the system is to capture and tabulate votes for the Senate when in session. “When the President of the Senate calls a vote, we send the name of the bill to each of the 40 member touch screens, and members can touch ‘yes,’ ‘no,’ or ‘Rule 36,’ which means ‘I am here but I’m not voting because I have a financial conflict of interest,” Palmore explains. “The Crestron processor tabulates the votes and hands them off to our server, which sends the totals to our Barco monitors and records them in our archive.”

The system includes touch screens for the President, Clerk, and two Assistant Clerks to manage the opening and closing of votes, the request-to-speak queue, and the audiovisual systems, and to access to the Visual Basic system. Each senator has a touch screen, and there also is one on the Dias. Six large

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displays show voting information to the members, the press, and those seated on the Dias. Two more displays register page requests from the senators. And, a PC displays the order of speakers via Crestron XPanel software so the PBS® affiliate can plan camera shots and captions.

Crestron technology offers many advantages. According to King-Cliby, it’s extremely stable, with “no worry about a PC crashing or going off line.” The equipment is hardwired in place so it does not rely on battery power and the possibility of theft is reduced. Built on a closed Ethernet system it is



extremely secure. As King-Cliby says, “This network is completely isolated. You can’t access or hack it from outside the room. It’s not physically possible.”

The Upgrade: The Virginia Senate voting system has run reliably since 2007, but with the original panels nearing end-of-life, Palmore headed an effort to upgrade the system with 40 new Crestron 7” touch screens, new units on the Dias, and a new Crestron 3-Series Control system.

Palmore says, “In switching to the newest Crestron components, we greatly enhanced our processing speed. . . . the new system is very, very fast.”

King-Cliby says that ControlWorks has always based its voting and legislative management systems on Crestron hardware—as it does with all the commercial and residential control systems they design. “We have had a very long relationship with Crestron. We focus on their products because of their great people and great support, and because of the flexibility of the technology they have developed. We know we can always make a Crestron system do whatever our clients want.”

Results: After more than eight years of operation and one major upgrade, Palmore says he’s extremely pleased with the decision to use Crestron technology. “The system fulfills everything we were looking for and

it absolutely mirrors our legislative process. It’s hard to see how we could have gotten a better fit.

“The beauty of our system,” he adds, “is that, while the programming is custom, the hardware is off the shelf. It allows me to go to any Crestron integrator and say, ‘I need three more touch screens.’ Had we continued to use a specialized voting system vendor, we might be completely under their thumb. Using Crestron technology keeps us in control.”

It’s one more reason the Senate of Virginia chose Crestron technology for their most crucial functions of all—voting.

Equipment List

- Crestron 3-Series Control System®
- 40 7” Crestron touch screens
- 2 20” touch screens
- 15” Crestron touch screen
- 12” Crestron touch screen
- Crestron XPanel software

Designer and Programmer
ControlWorks Consulting, LLC
www.controlworks.com

Integrator
The Whitlock Group
www.whitlock.com

Photos courtesy the Virginia Senate

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