

Public School System Connects to the World...and Beyond

Charles County Public Schools implements Cisco TelePresence to prepare students for 21st-century careers

EXECUTIVE SUMMARY

CHARLES COUNTY PUBLIC SCHOOLS

- Education
- La Plata, Maryland, United States
- 35 schools, four educational centers, 26,798 students

BUSINESS CHALLENGE

- Connect schools and students to world to prepare for 21st century careers

NETWORK SOLUTION

- Cisco TelePresence

BUSINESS RESULTS

- Extended programs designed to achieve academic excellence
- Enhanced teacher development and increased productivity
- Providing students with new opportunities unavailable in most other districts

Business Challenge

In 1997, James Richmond became the school system's superintendent and embarked on an aggressive campaign to provide Charles County Public Schools (CCPS) students with the world-class connections and experiences that they will need to succeed in the 21st century. The district's master plan includes implementing technology solutions that connect the school system with the world and provide teachers with instruction-enhancing capabilities that address a wide range of learning styles.

"Our goal is to connect our students with the world, so that they can experience other cultures," says Richmond. "It is clear that the technology needed to support this goal is video, and we began looking at video solutions several years ago."

To enhance instruction, CCPS had already invested in unified communication, data center, and mobility technologies over the past

few years. These solutions also enable the district to balance ambitious academic goals with equally important business management requirements. As Richmond and his team, led by Bijaya Devkota, director of IT, began exploring the available alternatives, they became familiar with Cisco TelePresence[®] technology and quickly recognized its ability to provide teachers with a powerful tool for enhancing courses.

CCPS is also designing a new high school that is scheduled to open in 2014. The new high school will include a state-of-the-art digital classroom that extends the classroom environment by adding rigor through the use of technology. Keeping these objectives in mind, CCPS chose Cisco[®] TelePresence infrastructure for its six existing high schools and the one under development.

Network Solution

CCPS relies on Cisco networking technology to deliver educational, managerial, and administrative services districtwide. Voice and data features are available in every classroom, as well as extensive Cisco wireless services that allow administrators and security staff to centrally control and monitor IP security cameras deployed across the district. With its investment in Cisco end-to-end architecture, the district is able to rapidly deploy and integrate Cisco TelePresence with its existing network capabilities.

Cisco TelePresence endpoints are deployed in the schools, allowing CCPS students and teachers to share multimedia content and a rich user experience as if everyone were in the same room. Devkota also implemented Cisco TelePresence infrastructure that enables CCPS to collaborate easily with external partners who use disparate standards-based videoconferencing and telepresence solutions. The infrastructure's ActivePresence feature gives CCPS the ability to create a multipoint meeting experience with a view of all attendees while giving prominence to the active speaker.

Cisco TelePresence is now deployed in five high schools, with one more school planned to be in production by the end of 2012. Cisco TelePresence solutions will also play a significant role in the new high school, with plans to use it as a large video wall and within the digital classroom.

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– James Richmond, Superintendent of Schools, Charles County Public Schools

Business Results

Prior to full deployment, CCPS created a Cisco TelePresence prototype installation and engaged teachers early to learn about the technology from the Cisco team. Teachers immediately recognized the possibilities for their classes, and adoption of the technology spread quickly.

Classroom Exchanges

As part of its Civics Mosaic Program, CCPS previously had several distance learning exchanges with classrooms in Penza, Samara, and Ryazan, Russia over the Internet. By sharing topics and holding real-time discussions with each other, CCPS and Russian teachers and students were able to share insights into the differences between the election systems in Russia and the United States. The district is exploring the use of Cisco TelePresence for ongoing classroom-to-classroom and topic-to-topic sessions.

“Cisco TelePresence is a natural way to connect to different cultures around the globe,” says Richmond. “We can share those experiences and cultures while cost-effectively working together on different projects.”

Achieving Academic Excellence

CCPS teams with Kaplan College Preparatory School over Cisco TelePresence to offer an online Advanced Placement (AP) statistics course. For the class, teachers at four high schools and a Kaplan instructor are joined to deliver simultaneous instruction from multiple locations. All teachers appear to be in the same room, and CCPS teachers can present a topic while the Kaplan statistics expert expands on specific concepts.

Although CCPS expected to simply enrich its course content, the participants enjoyed other benefits: students at different schools became acquainted, and teachers significantly enriched their own instruction through sharing with each other. The program is being expanded to all six high schools by the end of 2012. CCPS plans to connect staff to teach its full range of AP courses, as well as to develop AP courses in the PERL language, social studies, and assessment language.

Expanding Its Reach

With telepresence technology, Richmond envisions expanding course offerings beyond traditional six-hour days to offer classes after school and on Saturdays. The immersive telepresence solutions enable the district to offer courses that would have been impossible to provide for just a few students at each high school.

Opening Doors to New Opportunities

Charles County Public Schools is in a five-year partnership with the Space Foundation to help students excel in science, technology, engineering, and mathematics (STEM). Since 2007, CCPS teachers been trained to more fully infuse space concepts into the classroom for students in pre-kindergarten through high school. In 2011, 180 CCPS teachers attended the Space Foundation's free training classes. Topics covered rocketry, space travel, living on Mars, and a wide range of other disciplines. The district's early childhood teachers used the teaching to develop a lesson for the school system's youngest students on building a robotic Mars rover using marshmallows and other food materials.

"We want teachers to educate kids on the possibilities and help them understand the importance of the principles behind those technologies," says Richmond. "The digital classroom in the new high school will have an interactive space program that will lift kids right out of their seats. We've been working on it for five years, with the goal of turning kids on to math and science."

Improving Staff Development

In the past, CCPS sent small groups of teachers to Duke University for training. Through partnerships with Duke and Towson Universities, it is now possible to conduct teacher training using Cisco TelePresence. Professors from Duke's Nicholas School of the Environment can potentially work remotely with CCPS teachers to bring the university's green program to Charles County, particularly during development of the new high school, which will provide state-of-the-art green education. With Cisco TelePresence, teachers gain access to new resources and instruction delivery methods to better help students with different learning styles.

Staff Productivity

Richmond is also achieving significant time savings by initiating districtwide conferences between administrators using Cisco TelePresence. Participants can attend a meeting and go back to their classroom without having to leave the school campus. CCPS can also train many more teachers. In the past, only a few teachers could go to Duke for advanced training because of time demands and high transportation and lodging costs. With Cisco TelePresence, 25 to 30 teachers could attend training, extending valuable productivity gains to more teachers across the district.

PRODUCT LIST

- Cisco TelePresence Codec C90
- Cisco TelePresence System Profile 65-inch Dual
- Cisco TelePresence MCU 4505
- Confidence Monitor

"There are not many other school districts using telepresence technology that we can learn from, so we are learning as we go," says Devkota. "With the excitement of our teachers using and sharing the technology, I think we are just scratching the surface."

Next Steps

With the new high school and abilities to connect every school and student to classrooms and experts around the world, Richmond sees no limit to what video technology can help students achieve. He is working with the Space Foundation to bring an Aerospace Academy to the Robert D. Stethem Educational Center, which will service middle school students and provide a Mars yard, a lunar yard, and solar system space travel lab.

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For more information

To learn more about Cisco TelePresence, visit www.cisco.com/go/telepresence.

To learn more about Charles County Public Schools visit: www.ccboe.com.

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