School District Creates Safe, Innovative Learning Environment

Denton Independent School District puts its trust in Cisco Physical Security and Cisco Collaboration solutions.

EXECUTIVE SUMMARY

Customer Name: Denton Independent School District

Industry: Education

Location: Denton, Texas, United States

Number of Employees: 3000 (approximate)

Challenge:
- Provide safe, secure learning environment
- Offer high-quality learning experience to diverse student population
- Help enable teachers and staff to be more mobile and productive

Solution:
- Implemented complete security solution based on Cisco Physical Security
- Enabled fast, efficient meetings anywhere with Cisco Jabber
- Empowered innovative content delivery with Cisco Collaboration technology

Results:
- Implemented innovative "flipped" classroom approach
- Improved collaboration for staff and teachers while minimizing travel time
- Helped ensure high level of security at all 44 district buildings

Challenge

If you walk around the picturesque square of the City of Denton, Texas, you might be surprised to discover that this is the center of one of the most innovative K–12 school districts in the country. This north Texas city of more than 113,000 people is rightly proud of the excellent job done by the faculty and staff of Denton Independent School District (ISD).

And it's a big job, in a number of ways. Jamie Wilson, superintendent of schools for Denton ISD, reels off the statistics: "We have approximately 26,000 students, and it's growing," he says. "This year alone we added 1200 more. And our district is one of the largest in Texas, covering more than 180 square miles." Add in the shrinking budgets that are typical of K–12 education today, and it is even more remarkable that Denton ISD has achieved so much.

Technology Goes to the Head of the Class

Ernie Stripling, technology information officer, points to technology as a significant factor in Denton's educational success. "When I came here in 2000, Denton was on the cusp of moving into a new era of technology," he says. In his role, he was charged with helping to define the infrastructure that would support the educational goals of Denton ISD.

Stripling had a long and successful track record of building networks around Cisco solutions, and he drew on that experience to help shape the future of his new hometown. "I knew that the network would be the foundation for everything that we wanted to do," he says. "Once you have the right network, everything else falls into place."

Under Stripling's direction, Denton ISD has deployed a rich fiber-based network with fully meshed distributed cores. Each of the district's nine core campuses has a Cisco Catalyst® 6500 Series Switch, which also aggregates the connections from the smaller

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Superintendent of Schools
Denton Independent School District

campuses. This reliable, high-performance network supports a broad array of Cisco technologies including physical security, content delivery, and collaboration.

It's Safety First at Denton ISD

Security is a team effort at Denton, and Cisco is a key player on the team. Denton ISD has installed more than 800 Cisco® Video Surveillance IP Cameras at the 44 elementary, middle, and secondary schools and ancillary buildings throughout the district. "The cameras watch almost every part of our physical plant, including playgrounds, hallways, buses, cafeterias," says Stripling. "We have cameras at the doors of all the schools so we know who's coming and going all the time. Cisco security cameras are the eyes and ears of the people who are charged with ensuring school security."

Officer Marc Hodges, an 18-year veteran of the Denton Police Department, is assigned to Ryan High School as a full-time school resource officer, functioning as a liaison between the police department and the school district. Hodges is quick to acknowledge the value of Cisco physical security solutions. "Cisco Video Surveillance Manager allows me to monitor any camera within the district, right from my office," he says. "The system displays up to 16 different views at once, and it records the scene for later examination if necessary."

He's also impressed with the clarity of the images. "Unlike surveillance videos from businesses and convenience stores, Cisco's picture quality is excellent," Hodges says. "It's crisp and clear even in slow motion."

Security on the Go with Cisco IPICS

Hodges and other school resource officers rely on desktop installations with multiple large monitors, but others involved in school safety are usually on the move in the hallways and classrooms. Thanks to Cisco IP Interoperability and Collaboration Systems (IPICS), they can still perform their security duties. "Principals use IPICS on their iPads and iPhones," Stripling says. "It allows them to access any camera in the district from classrooms, hallways, cafeterias. They can even access cameras from home."

Remote access capability is more than a convenience: It actually increases responsiveness to incidents. "With IPICS, a principal or security officer can monitor the event continuously as they are moving to the scene," he says. "They can track the movement of individuals by switching camera views, which allows them to go straight to where they are needed, and resolve the situation much faster."

Denton "Flips" the Classroom with Cisco Technology

One key innovation in the district is an educational philosophy known as the "flipped" classroom. "In the traditional learning paradigm, the students are exposed to content in class," says Barry Fox, director of instructional technology. "Then they go home and work on those assignments. A flipped classroom turns that model 180 degrees. Students get exposed to content at home in the form of prerecorded lessons, and then come to school to work on assignments there, with the help of the teacher."

Fox credits Cisco technology with making the flipped classroom possible by giving teachers a powerful tool for creating content. "The teachers use Cisco Show and Share to capture their own lessons with video cameras or even cell phones, transform the content through an easy-to-use interface and share it via our content library," says Fox. "It's like having our own YouTube."

Robert Bostic, assistant superintendent for academic programs at Denton ISD, points to the Cisco Media Experience Engine (MXE) as a vital piece of behind-the-scenes enabling technology. "To publish their lessons, teachers send the video to the Cisco MXE, which transcodes the video into whatever format is needed," he says. "Students can use any device (laptops, Android devices, iPhones, iPads) to view their lessons. With Show and Share, teachers can record and publish educational content quickly, without technical assistance or approval from a curriculum coordinator or assistant principal."

Providing educational help to students who miss classes is a perennial problem for any school district. Denton ISD has solved this problem with the Cisco Telepresence® Content Server. "Show and Share has a direct link to our Cisco Telepresence Content Server," says Roy Verges, video engineer for Denton ISD. "TCS can be set up to record a class and send the video to Cisco MXE, which transcodes it and uploads it to Cisco Show and Share. The process is completely automatic, and it's a great way for teachers to create and receive educational content at a distance."

Instant Meetings Anywhere in the District with Cisco Jabber

Coordinating educational programs across such a large district requires frequent meetings of the school principals and other staff. However, bringing them all together physically wastes significant time that can be better used. In addition, the district relies on a cadre of educational experts, some of whom live out of the area. Flying them in for meetings would strain an already-tight budget.

Once again, Cisco Jabber Video for TelePresence offers a solution with Cisco Jabber™ and Cisco Telepresence Content Server. Fox is effusive in his praise. "Cisco Jabber is one of the coolest things I've worked on recently," he says. "It allows me to set up a face-to-face meeting virtually, on just a few minutes' notice, with a dozen or more participants."

Cisco Partner TFE Gets High Marks for Support

The success that Denton ISD has realized with Cisco technology has been aided by TFE, a Cisco partner. Five years into the relationship, the top management of Denton ISD has nothing but words of praise for TFE. "TFE and Cisco are completely aligned with the district's mission," he says. "Time and again, they have come up with the solutions that move us toward our strategic goals."

"TFE's people are highly knowledgeable and accessible; we talk to them every day," says Stripling. "In particular, Russ Johnson, the CEO and a principal at TFE, makes it a point to keep us informed about Cisco's plans and roadmaps so Denton can get the most out of our scarce infrastructure dollars."

Underlying these and many other educational initiatives is a rock-solid foundation of Cisco technology. From security and core networking to collaboration and video content creation, Denton ISD relies on Cisco to realize the district's mission. "Over the last eight years, Cisco and TFE have consistently helped us identify and implement solutions to a broad range of educational challenges," says Wilson. "We're actively preparing the students of Denton to work in a global economy where technology will play a central role in their lives."

Product List

Routing and Switching
· Cisco Catalyst 6500 Series Switches

Physical Security
· Cisco Video Surveillance IP Cameras

· Cisco Video Surveillance Manager

· Cisco IP Interoperability and Collaboration System (IPICS)

Collaboration
· Cisco Media Experience Engine

· Cisco Show and Share

· Cisco TelePresence Content Server

· Cisco Jabber Video for TelePresence

For More Information
· To learn more about the Cisco solutions described in this case study, visit www.cisco.com.

· To learn more about TFE, visit www.tfeconnect.com.

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