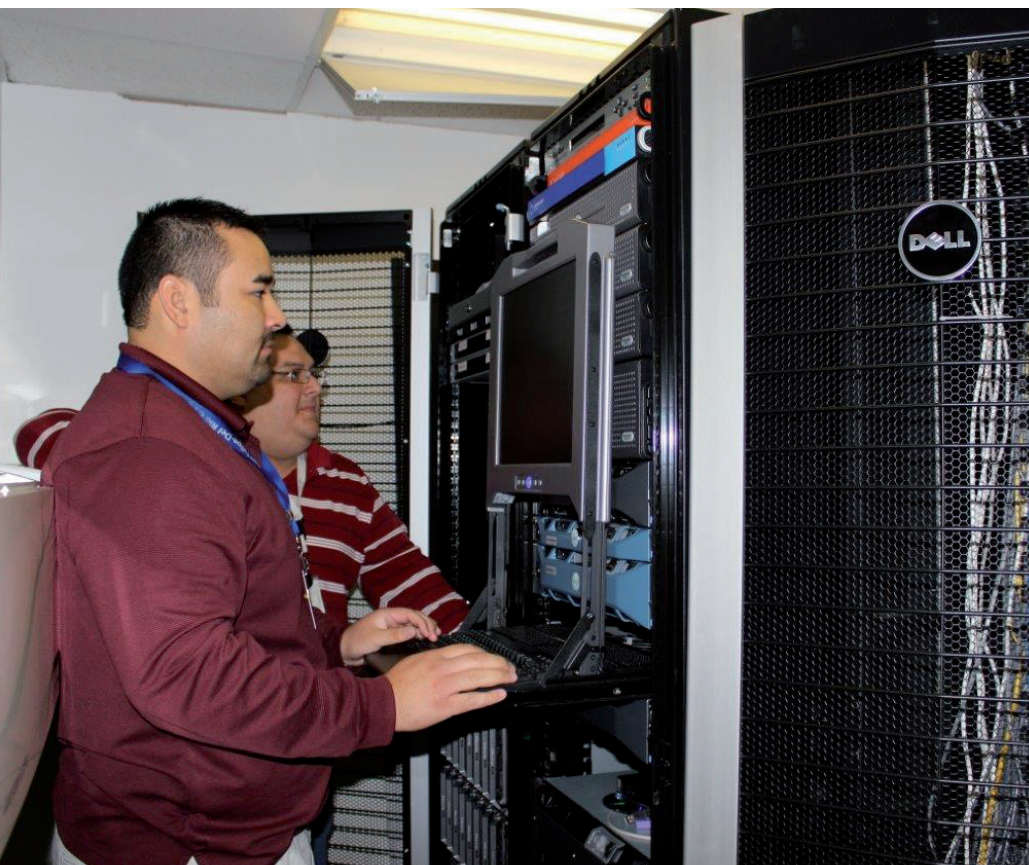




Focus on learning, not technology

With its desktop PCs rapidly aging, the San Felipe Del Rio Consolidated Independent School District opted for virtual desktops in classrooms and take-home laptops for freshmen



Customer profile



Company	San Felipe Del Rio Consolidated Independent School District
Industry	Education
Country	United States
Employees	1,400
Students	10,500
Website	www.sfdr-cisd.org

Business need

The school district could no longer afford the \$1.5 million cost of replacing a third of its 4,500 desktop PCs each year, nor could it afford the upkeep of the remaining PCs.

Solution

The district replaced its older desktops with Dell thin clients at far less cost and maintenance, while opening new learning horizons for freshmen by giving them take-home laptops.

Benefits

- Optimizes the learning environment for students and teachers
- Provides freshmen with take-home laptops for more personalized learning
- Saves \$1.25 million annually to use for other technology initiatives
- Reduces instructional disruptions due to IT support calls in classrooms
- Cuts 2,250 hours a year in ongoing IT support requirements
- Eliminates the two weeks a year IT needed to load bilingual testing software

Solutions featured

- [Cloud Client Computing](#)
- [Deployment Services](#)

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Abe Casillas, Chief Technology Officer, San Felipe Del Rio Consolidated Independent School District, Del Rio, Texas

Located in semi-desert on the north side of the Rio Grande River in Texas, the City of Del Rio is host to Laughlin Air Force Base and the sector headquarters of the U.S. Border Patrol, which are its first- and second-largest employers respectively. Third is the San Felipe Del Rio Consolidated Independent School District, with approximately 1,400 teachers and staff serving about 10,500 students in eight elementary schools, two middle schools, a freshman-only high school and a high school for grades 10–12.

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The school’s students make up almost a third of the city’s population of 35,500, and their demographics reflect the area’s largely Hispanic population and economic levels, with a median household income that’s two-thirds that of the U.S. at large. About a quarter of the city’s residents were born outside the U.S., most in Latin America.

These factors figure in many of the challenges the school district faces in its mission to educate the city’s youth. Among those challenges are bilingual teaching, English as a second language, and equitable access to technology, especially at home. On top of that, the state cut about \$3.3 million from the school’s 2012 funding. Although the funding was restored for the 2013–14 school year, the cuts prompted Abe Casillas, the district’s chief technology officer, to reconsider its traditional approach to refreshing its PC base, which was costing it \$1.5 million a year.

Time to rethink the refresh for school district PCs

Casillas notes that the school district had about 4,500 PCs across its 12 campuses and administrative offices. Each classroom had three PCs for students to use and one for the teacher’s use. In addition, each campus has two computer labs, plus the high school has nine labs, including specialty labs for engineering programs and career development. The district also has a staff development lab.

For years, Casillas says, the district’s refresh cycle for its PCs was based on the end of the three-year warranty

Technology at work

Services

Deployment Services

- Configuration Services

Support Services

- Dell ProSupport

Hardware

Dell EqualLogic PS6510E iSCSI SAN Storage

Dell Latitude 3330 laptops

Dell Networking MXL blade switches

Dell Networking M8024 and M6220 switches

Dell PowerEdge M610 and M620 blade servers

Dell PowerEdge M1000e blade enclosures

Dell Wyse C10LE thin clients

Software

Dell Chassis Management Controller

Dell vWorkspace

Microsoft Hyper-V Server 2012

Microsoft Office 2013

Microsoft Office 365

Microsoft System Center 2012



period for the oldest PCs. The district would retire those and buy another 1,500 at an average cost of \$1,000, or \$1.5 million. "The district's funding picture started getting a bit tough, and the superintendent at the time asked me to look for a solution because we couldn't afford to continue to spend that kind of money each year," he says.

Clearly the time had come for Casillas to explore alternatives. One option that caught his interest was virtualized desktops. Donald Weaver, founder of Weaver Technologies in Fredericksburg, Texas, invited him to visit another school district that had successfully virtualized its desktop PC environment. Weaver, a former school district technology director, knew the issues facing Casillas and his IT team. After seeing how well that approach was working there, Casillas returned to his district ready to do the same.

A perfect fit for classrooms, plus time savings for IT

Casillas realized that while desktop PCs had served the classrooms and labs well over the years as tools to help students learn, widespread networking and the internet had made them functionally obsolete. "Because most of what our PCs do today use programs that are web-enabled or web-based, all we needed was a device to connect with the internet," he explains. "We saw the advantages that the virtual environment had over physical PCs in that we don't have to touch a PC. We can just make the adjustments on the network side with one click and that updates all the desktop terminals."

His decision to explore desktop virtualization was music to the ears of his 10-person IT staff. With 4,500 PCs to manage, IT team members constantly had to make physical updates to them. Whether it involved a critical Windows update or ones to Microsoft Office or other applications residing on the PC, an IT technician had to make a trip to the school and classroom, often disrupting

the class in the process. "Every time there was an update," he says, "we had to go physically touch each PC. It was very time-consuming and took time away from the students, who were always distracted by whatever our tech was doing. We were losing a lot of instructional time, not to mention the time we spent of our own."

Taking time to make the right choice

Not only was Casillas impressed by the potential savings for the school district and the IT efficiency of desktop virtualization. He also realized that he and his team would be undertaking a fundamental and lasting change in its desktop computing landscape as well as in its supporting back-end server, storage and systems management infrastructure. For that reason, he thought it would be prudent to consider his competitive options.

In the course of his due diligence, Casillas attended a technology awareness meeting in San Angelo, which is almost a three-hour drive away. He said he met with HP's reps but they never wanted to make the trip to Del Rio. "Other vendors wanted to do everything over the phone, but Dell's reps came to meet with us in Del Rio, carefully assessed our needs and made some really great recommendations that ultimately will save us lots of time and money."

Desktop virtualization via thin clients and a private cloud

At the forefront of the desktop virtualization effort, which was designed and implemented by Weaver Technologies, was replacing the district's desktops in a phased approach, using about 1,900 Dell Wyse CL10LE thin clients with the highly secure Dell Wyse ThinOS. To support these clients, Casillas and his team created approximately 3,000 virtual machines using a mix of Parallels® and Virtuozzo™ for more standardized student desktops. For staff clients and specific, CPU-intensive student desktop clients, such as those needed for graphic and video production,

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they used Microsoft Hyper-V Server 2012 technology.

Casillas deployed Dell vWorkspace to broker and load-balance the district's thin clients' connections with their respective virtual machines. These are hosted on 48 Dell PowerEdge blade servers, which are a mix of M610 and M620 models that operate in PowerEdge M1000e blade enclosures. Storage is provided by two Dell EqualLogic PS6510E servers with a combined capacity of about 90 terabytes. "Dell Equal Logic servers simplified adding another storage area network," Casillas says. "The process was surprisingly seamless for the graphical user interface. If we had opted for a competitor, our migration of the new SAN would have been more difficult due to supporting two different management systems."

Easing IT's data center management burden

All these servers are interconnected with Dell Networking MXL blade switches as well as Dell PowerConnect M8024 and M6220 switches. The IT team uses the Dell Chassis Management Controller to manage these devices. "The Dell Chassis Management Controller has helped reduce our troubleshooting time with the blade servers," says Casillas. "It also simplifies the upgrades of firmware across the chassis, compared with basic rack-mount servers."

To manage it all, the IT team uses Microsoft System Center 2012. Dell's Configuration and Deployment Services remotely loaded the district's desktop images into the virtual machines that were built for the thin clients. And Casillas signed up for Dell ProSupport, a comprehensive and responsive service to provide extra peace of mind should

problems arise anywhere in the district's end-to-end solution. "We are very satisfied with the desktop virtualization and private cloud model that Dell designed for us," says Casillas. "It's working just brilliantly."

Unleashing technology's power to enrich learning

The district's thin-client desktop image provides students with access to the Microsoft Office 2013 productivity suite. Based on its solution design, Weaver Technologies suggested that Casillas also license cloud-based Microsoft Office 365 to eventually migrate the district to cloud-based Microsoft applications, especially email. "We have so many email file attachments and so much archiving needed that our Exchange servers are constantly running out of room," he says. "That's one reason we want to move to a cloud solution."

Students also have access to many learning applications. One is the My Big Campus™ learning management system. It works across desktop and mobile devices to deliver curriculum and course content as well as secure communications between students and teachers. Destiny Learning™ offers access to online textbooks from all the major publishers and to electronic books in the school library.

The district subscribes to iStation™, which is a comprehensive student assessment and interactive instructional platform. Its tools help save the district's teachers hundreds of hours in assessing their students, while making learning fun for students. Teachers also have access to Atomic Learning® as a resource for bringing technology and curriculum together, supporting their needs for

guidance on using technology to enrich learning and saving time with lesson plans and templates.

Avoiding \$1.25 million in costs, while launching a 1:1 laptop initiative

"Our district is avoiding about \$1.25 million in annual expense that our old way of refreshing our PCs would have cost us, by deploying our desktop virtualization model using Dell Wyse thin clients," says Casillas, adding that the cost-avoidance has enabled the district to invest in other technology initiatives.

Casillas is especially excited about the district's recent investment in giving new high school freshmen their own Dell Latitude 3330 laptops to take home with them and use as their own through their senior year. The arrangement is similar to the 1:1 Laptop Initiative that many other districts call their laptop take-home programs. "We wanted an affordable and reliable laptop, one that we could put in the hands of students, one that they could take home with them and use for their four years in high school. Dell's rugged laptops gave us just that."

The Dell desktop virtualization solution has eliminated the need for the often disruptive and always time-consuming visits that IT made to school classrooms to load new software, update existing software or troubleshoot problems. Casillas figures that his technicians save at least 2,250 hours each year by centrally managing the thin clients. They also gain another two weeks a year by not having to load special bilingual testing software that state law requires be used to test students three times during the school year. "Are we saving a lot of time with Dell's desktop virtualization?" he asks. "Yes it is, big time."

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