

### Customer Profile:

Tornillo Independent School District operates five schools and an administration building just outside of El Paso, Texas. The district includes high school, junior high, intermediate, elementary and alternative education facilities.

Three of their four main campuses were rated either “Exemplary” or “Recognized” in 2007 – the highest percentage for any public school in the region. They attribute their success to outstanding faculty, programs and resources that include a new 10GB switching and fiber uplink solution.

Tornillo’s recent D-Link network upgrade project was funded almost entirely by the Universal Service Administrative Company’s (USAC) Schools and Libraries Program (90% of the funding). The program provides discounts to eligible schools and libraries for telecommunication services, Internet access and internal connections.

*“The D-Link 10GB solution just works wonders for us. Web cams and VoIP traffic place a heavy load on the network...The users have never been so impressed... And we’re growing, so it’s nice to know that we have a network that will support us.”*

- Armando Gonzalez, Network Administrator, Tornillo Independent School District

## Tornillo Independent School District Solves Reliability Issues, and Makes Way for VoIP and Web Surveillance with D-Link 10GB Switches and Fiber Uplinks

*Once Discouraged Users Now Praise Network Performance and Constant Connectivity*

### The Challenge

When Armando Gonzales interviewed for Tornillo Independent School District’s Network Administrator position, the district’s network went down while he was in their office. The outdated switching equipment frequently crashed for unknown reasons. “My future boss actually made me troubleshoot the problem as part of the interview,” said Gonzales. “It was trial by fire.”

The users, which include students, teachers, administrators, and employees, had gotten used to the flaky connectivity issues and unreachable resources. Heavy traffic between district buildings slowed down the network, and users would frequently complain. The network got so bad that users gave up trying to rely on it. “Connections would be down for two or three weeks, and users just stopped reporting it.”

With 10GB connectivity coming out, the district decided that it was the right time to upgrade their switching infrastructure. The extra capacity would allow them to support continued workstation additions and ongoing network expansion initiatives for supporting high-bandwidth applications like VoIP and an IP security surveillance system.



*Tornillo Independent School District IT Specialist and Web Designer Carlos Garcia displays D-Link 10GB switches and fiber uplinks.*

## Tornillo ISD

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### The Solution - D-Link Delivers Reliable 10GB Network

“We did our homework, and D-Link was the best value,” said Gonzales. The district bought 30 xStack DXS-3350SR switches and 9 DEM-420X XFP 10Gigabit uplink modules to connect the switches via fiber between their campuses and administrative buildings.

The district installed the equipment over a few days during the summer, while school was out of session. Wiring took some time, but “the actual switch installation didn’t take any time at all,” according to Gonzales. “We just jacked them in and input the IP addresses.” The fiber uplinks cover about four kilometers – from the central offices to the schools.

“The project helped us replace a measly foundation with a solid, reliable 10GB network,” said Gonzales. “We’ve gone from four servers to more than 15 – with applications and Internet connectivity running out to about 700 computers.” The district just bought another 100 computers for the new year, too.

“Web cams and VoIP traffic place a heavy load on the network,” continued Gonzales. Tornillo’s security camera system uses 40 cameras district-wide and constantly broadcasts video feeds to security monitors and recording systems. Their elementary campus uses a server-based educational application called Voyager, which requires healthy network bandwidth, as well.



**DXS-3350SR 48-Port  
10/100/1000 Switch + 4 combo  
SFP + 2 10GbE ports**

- 176Gbps Switching Capacity
- Recoverable Ring or Star Stacking Architecture
- Dual 10-Gig Stacking Ports and Optional 10-Gig Uplinks
- Stacks up to 8 Units per Stack



**DEM-420X 2-Slot XFP 10Gigabit  
Uplink Module**

- IEEE 802.3ae 10Gbps Standards Compliance
- Supports All Layer 2/3/4 Functionalities



*Tornillo Independent School District IT Support, Sergio Sosa, installing the D-Link xStack switches and uplink modules, which helped provide the district with a solid, reliable 10Gigabit network.*

“The D-Link 10GB solution just works wonders for us,” said Gonzales. “Everything’s centralized and I really like the D-Link interface. The graphical display for port illumination is great, and everything’s very user friendly. My boss likes interfaces that are simple and easy to understand, and I like a bit more detail. The D-Link interface provides the right mix, with a lot of technical information displayed in a good, usable format.”

“And the users have never been so impressed with the network,” he continued. “They can now depend on constant connectivity. I’ve been getting compliments left and right. And we’re growing, so it’s nice to know that we have a network that will support us.”

#### **Moving Forward - D-link Provides Solid Network Infrastructure to Build On**

Tornillo plans on expanding their wireless access capabilities now that the infrastructure is so solid.

“We offer free Wi-Fi service to community users in their homes via access points atop one of our towers,” said Gonzales. “The program started out with seven users, and it’s grown to more than 160. We have a waiting list now for others that would like to have access.” The district is evaluating D-Link enterprise wireless access points for the newest high school in their district. They want to offer students wireless access while maintaining robust security and access management features.

“We have a lot of projects in the pipeline,” said Gonzales. “And thanks to D-Link, we’re able to provide a solid network infrastructure to build on.”