

### Customer Profile:

Livingston Independent School District runs five campuses and nine total district facilities 60 miles outside of Houston, Texas. The campuses include two elementary schools, an intermediate school, a junior high, and a high school. District facilities include a transportation location, a warehouse, an administration building, and two other support locations.

“With a small budget, we can’t afford the high dollar IT people, so staff is going to come and go. One of D-link’s greatest advantages is that the switches are simple to operate. I was able to learn the program and do everything I needed to do inside the switches in just a few minutes.”

- James Dickens, Technology Director, Livingston Independent School District

## Texas’s Livingston Independent School District Serves Up Huge Video Files with Easy-to-Manage D-Link xStack Switches

### Father-Son Team Handles Complex, High-Speed Network

#### The Challenge

Livingston Independent School District’s IT department supports more than 4,100 students and approximately 800 staff members. Users depend on the network and Internet connection for everything from day-to-day administrative communication to e-learning programs. “Our kindergartners are one of our heaviest technology users,” said James Dickens, Livingston ISD’s Technology Director. The kindergartners use a Web-based reading program, and the entire district streams educational video content from their local, server-based United Streaming video program.

Back in 2003, Livingston Independent School District ran their local network with a \$40,000 non-D-link 155MB ATM switch. James Dickens initially managed the operation solo. As network and Internet usage grew, he hired his son to help out.

“I didn’t like the ATM set-up, because it took about three rocket scientists from Texas A&M University, plus a support team from around the world, in order to get the switch programmed correctly and make it run,” said Dickens. If the switch failed, the entire

## Livingston ISD

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network would be unavailable, as well. They didn’t have the budget to purchase a back-up switch at \$40,000. Eventually, they decided to phase out the ATM architecture.

Livingston is a rural district, so they don’t have the budget for onsite vendor support. And they don’t have time to wait for support personnel to drive all the way out to their location. “Hiring somebody to come out and fix or program a switch is not acceptable,” said Dickens. “The switch needs to be simple enough so a reasonable person can program it and make it do what it needs to do without having to bring professionals in.”

The district’s video system presented additional challenges. They purchased United Streaming’s Discovery Education video program but couldn’t leverage it fully without a faster local network. Initially, teachers had to request videos in advance, and then Dickens would download the large video files from United Streaming over night. He’d then copy them over to the classroom desktops manually. It was a cumbersome, time-consuming process.

Livingston ISD needed a scalable, high-speed, low-cost network switching solution that could handle their video streaming needs and be easily maintained by minimal staff.

#### The Solution

Livingston ISD opted for a D-Link switching solution based on Dickens’ recommendation. “We went with D-link because I was able to learn the program and do everything I needed to do inside the switches in just a few minutes,” said Dickens. “I didn’t have to go and take four semesters of some class to learn how to get around and manage my own switches.”



*James Dickens, Technology Director at Livingston Independent School District, recommended the D-Link switching solution because it is a scalable, high-speed, low-cost network solution that can handle the district’s video streaming needs and be easily maintained by minimal staff.*

## Business Class Switching

### XSTACK™ Switching



**DXS-3326GSR - 24-Port SFP Switch + 4  
combo 10/100/1000T + 2 10GbE ports**

- 128Gbps Switching Capacity
- Recoverable Ring or Star Stacking Architecture
- Dual 10-Gig Stacking Ports and Optional 10-Gig Uplinks

### XSTACK™ Switching



**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

### XSTACK™ Switching



**DGS-3324SR - 24-Port 10/100/1000  
Switch + 4 combo SFP, 10Gig Stacking**

- Integrated Dual 10Gig Stacking Ports
- Recoverable Ring or Star Stacking Architecture
- Advanced Standards Based Enterprise Features

They purchased 79 xStack and managed switches over a four year period, with the bulk of the switches being installed at the beginning of the project. Their local network features xStack switches and a 10GB fiber back plane.

The xStack switches are reasonably priced, so Dickens purchased back-up switches. "If a switch goes out, there's the identical switch all ready to go just sitting on the shelf," he said. "If we ever need it, I'd just pop it in, and we'd be back up in 15 minutes maximum. With the other system, I couldn't afford to keep a spare on the shelf."

Dickens and his son programmed all the switches on their own. The junior Dickens started helping out when he was in the 8th grade, worked through high school, then was hired after high school. "Another company came along and snatched him out from under me last May," said Dickens senior.

The D-Link network is approximately nine times faster than their previous ATM set-up. The 10GB back plane sends 1GB Ethernet to 11 locations. "That big back plane is very important to me, because when you start streaming video over T-1 lines or some other lesser infrastructure, four or five people can bring you to your knees in a heartbeat," said Dickens.

To eliminate the time-consuming video download and scheduling process, Dickens purchased a 2.5TB server for storing all the video clips at the district data center. With fiber connecting the master switches to the desktops, teachers now stream video any time they want. They can search for a video and launch it immediately in class.

"A lot of my associates in other districts are trying to operate with T-1 lines in between their campuses," said Dickens. "That's all they can afford. I'm fortunate to have fiber throughout my district. It makes a big difference."

#### People Make the Difference

Even though the D-Link xStack switches were easy to use and reliable, Dickens occasionally leveraged D-Link engineering support during the initial implementation phase. "To be honest, the support we got from [D-Link's] Jeff Horne was one of the reasons I went with D-Link," said Dickens. "If I had questions about the equipment, Jeff was there with an answer. And if he didn't have the answer, he'd get an engineer on the line and solve it on the same phone call."

Now Dickens is totally self-sufficient. "Jeff educated me initially, but now I don't depend on anyone for support. That's very important to me."

#### Advice from the Field

These days, most organizations have tight budgets and even tighter talent supply – especially in rural areas. "I've never seen a technology department that wasn't shorthanded," explained Dickens. "So you need switches that you can learn without needing a high-paid, degreed person on staff. It's very difficult to find and hang on to those people. So if it takes a degree to run your switch, I don't want it."

D-Link helps Dickens and his district stay ahead of the game. "One of D-link's greatest advantages is that the switches are simple to operate. I was able to learn the program and do everything I needed to do inside the switches in just a few minutes."