



## CUSTOMER SUCCESS STORY

# SHERMAN INDEPENDENT SCHOOL DISTRICT SHERMAN, TEXAS A TLS CASE STUDY

## SUMMARY

The Sherman Independent School District (SISD) needed to deliver mission-critical applications more quickly and efficiently across its network and to students in their homes. Facing the common challenge of strict expense control, SISD sought to improve its network at a minimal cost while also maintaining ease of management and security of network applications. Working closely with SISD staff to understand their needs, Verizon developed a network-based, transparent LAN service (TLS), using Cisco® equipment, to interconnect local area networks (LANs) through the school campus.

The Verizon TLS network uses Cisco switches in the SISD enterprise network with standard Ethernet service to deliver a highly reliable, cost-effective and easy-to-use solution. The Verizon TLS service provided the appropriate solution for the customer while maintaining the needed reliability and redundancy. The end result for SISD was a simpler, more cost-effective solution that expanded the reach and delivery speed of its mission-critical applications.

## CUSTOMER PROFILE

SISD is a K-12 school district serving approximately 6300 students. Located 60 miles north of the Dallas-Forth Worth metro area, SISD consists of 12 campuses distributed over a 12-mile, geographic area. Within the school district are six elementary schools, one middle school, an intermediate school and two high schools.

Sherman schools are committed to using technology to improve teaching and learning. To help ensure that Sherman school students are highly qualified and technology proficient by the time they graduate, SISD turned to Verizon. Network-based TLS was then provided by Verizon to help enable students to access the necessary technology-based resources—both on and off campus.

## SITUATION

Prior to installing TLS, SISD utilized the Verizon transparent LAN connect (TLC) service for a few years. The TLC service was characterized by 10 Mbps to each location in a dual-ring topology with no quality of service (QoS). The TLC service was delivered to the customer premises locations through Marconi ATM edge devices.

Each building was connected through Verizon-dedicated, single-mode fiber (SMF) pair from the building's premises to the nearest deployed Verizon switch. This cable network also connected every computer in SISD to instructional software, administrative networks, the energy management system and the electronic work order system. The SISD 6-Mbps Internet connection was provided and managed through Verizon's gold-level service.

Furthermore, every classroom in SISD was equipped with personal computers connected to a flat, 10-Mbps Ethernet LAN infrastructure. The LAN hubs were connected to the wide area network (WAN) via through the Marconi TLC edge equipment. The network infrastructure provided SISD with access to the campus file servers, the campus electronic library card catalog, an electronic grade book, the student attendance accounting system, the media retrieval system and many other crucial applications. Internet and e-mail access were available across the WAN through the main data center connection to Verizon and the Region 10 service center that supplies member districts with Internet access, on-site training and video training, among other services.

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Page 1 of 3

## ISSUES

Verizon and SISD agreed to work together in reassessing the school district's network to ease the burden of management control and increase network speeds, availability, reliability, redundancy and security.

One of the significant challenges for the school district was to deliver reliable service to every department and to every aspect of SISD. Performance degradation of mission-critical applications across the existing network infrastructure was an issue. It can affect the scheduling of transportation, food preparation, and food delivery, as well as the point-of-sale terminals, education policy dissemination, and file sharing across all of the critical educational applications.

Other factors influencing the development of the new SISD network included heightened needs for distance learning, adult education, student and teacher communication, on-line research and information retrieval activities. These factors were further compounded by concerns about rising costs, network growth, traffic congestion, LAN and WAN interconnection and bandwidth support for intensive applications.

## RESOLUTION

Sherman Schools selected Verizon based on its existing relationship with Verizon and on Verizon's solid service history. To better understand the school district's technical goals and long-term requirements, Verizon solicited information from SISD staff and faculty. Verizon then worked within the constraints of the SISD budget to provide a complete solution.

In the end, Verizon offered a multi-layer Verizon and Cisco end-to-end solution to meet SISD's networking requirements. This solution incorporated a holistic approach: the WAN service was upgraded to the new Verizon TLS Ethernet service while the LAN customer premises equipment was upgraded to Cisco Catalyst® switches. This resulted in a simpler, more cost-effective solution that allows SISD to support a wider range of application that require voice, data and video over one network.

The network-based TLS utilizes a Cisco Catalyst switched backbone and allows SISD to interconnect LANs throughout selected school campus sites using standard cost-effective Ethernet technology. The TLS solution also provides multi-point, Ethernet connectivity—more specifically Gigabit Ethernet connectivity—at all sites. The WAN network has a star topology with the main data center at the core. This topology provides reliability, QoS, redundancy and network monitoring for SISD. With the new Verizon Ethernet-based TLS and the upgraded LAN infrastructure, SISD now has the bandwidth necessary to run all of its applications.

Verizon's TLS service is also associated with the Cisco Powered Network program. Verizon customers, such as SISD, know that membership in the Cisco Powered Network program further illustrates Verizon's commitment to meet the highest standards for performance and reliability. Instilling this level of confidence is critical for businesses that want to out-task all, or part, of their networks. The services that Verizon offers help assure customers of interoperability and compatibility with their own enterprise networks.

## BENEFITS

The services provided to SISD from Verizon were installed to help realize cost savings by reducing the school district's total cost of ownership (TCO), decreasing operational complexity, increasing network availability, and reducing management expenses.

Verizon TLS is fully managed and monitored through one of two network operation centers (NOCs). Verizon's management services give SISD the freedom to expend critical resources on its primary objective—the pursuit of an outstanding education for everyone in the community.

The Verizon TLS combined with end-to-end Cisco equipment is an ideal solution for achieving an efficient, easy-to-implement and cost-effective way to communicate among LANs. It provides the SISD campus network with increased network performance, simplicity and stability.

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