UniFi Delivers Online Learning with Superior Wi-Fi and 10G Switching

Ubiquiti Networks® UniFi® HD APs maximize wireless coverage for seamless connectivity

10G EdgeRouter™ Infinity and UniFi 10G Switches deliver unprecedented bandwidth via fiber

UniFi PoE Switches provide auto-sensing 802.3at PoE+ and data to UniFi HD APs

Located in southeastern Texas, the Hardin-Jefferson Independent School District (HJISD) is a small, rural K-12 district with four campuses and three support sites. Recently, the district replaced their network to provide high-speed internet access and network connectivity to their students and staff.

"[It was a] complete network overhaul, replacing Cisco switch gear and wireless with UBNT hardware."

Lucas Turner, Network Administrator, Hardin-Jefferson Independent School District

FULFILLING PERFORMANCE DEMANDS

Hardin-Jefferson had multiple demands for bandwidth:

- High-density Wi-Fi classroom coverage in middle and high schools, where students participate in a 1:1 tablet program, with tablets provided by the district
- Reliable broadband internet access for extensive online learning by all students
- Ready availability of the student information system, which is hosted offsite at a regional service center

Technical requirements included a dual-WAN connection (500 Mbps each) with 10G fiber between sites and high-performance Wi-Fi to support 2700 users total: 2400 students and a staff of 300.

In evaluating vendors, Hardin-Jefferson prioritized participation in the United States government's E-rate program, which provides discounts to eligible schools and libraries for internet access and infrastructure. The district selected SkyRider Communications to implement its E-rate project.

Headquartered in Louisiana, SkyRider Communications serves Arkansas, Louisiana, Mississippi, Oklahoma, and Texas. SkyRider provides internet services, including last-mile broadband connectivity, as well as wired and wireless networking services and phone systems, for the education, library, government, and healthcare markets.

UniFi HD AP installed in high school library

"In five days, we completely removed our existing infrastructure and installed all new Ubiquiti hardware, thanks to SkyRider Communications... Configuration was completed concurrently with the hardware deployment."

Lucas Turner, Network Administrator, Hardin-Jefferson Independent School District

UBIQUITI® NETWORKS

COMPLETE NETWORK REPLACEMENT

UBIQUITI PRODUCTS IN ACTION

The following Ubiquiti products are deployed:

Model	Number	Purpose
UAP-AC-HD	175	802.11ac Wave 2 wireless coverage
UAS-XG	1	10G application server
US-48-500W	42	Gigabit switching with 10G SFP+ Ports and PoE support
US-16-XG	12	10G aggregation switching with SFP+ and RJ45 ports
ER-8-XG	1	10G routing with SFP+ ports

ROBUST ROUTING AND SWITCHING

For the backbone, Hardin-Jefferson uses dual 500 Mbps fiber connections for aggregate bandwidth. The 10G EdgeRouter Infinity links to a firewall device and a UniFi 16-Port 10G Switch. This switch connects onsite servers and more 10G switches.

These switches in turn connect to the UniFi Application Server and another group of switches: additional 10G switches and the 42 UniFi PoE Switches. To simplify infrastructure, these PoE switches carry both data and 802.3at PoE+ to the UniFi HD APs.

"Our site interconnectivity increased tenfold. Server directory response times are greatly decreased. The increased overall bandwidth is always welcomed, especially when we are dealing with a cloud-based storage system for our students/staff."

Lucas Turner, Network Administrator, Hardin-Jefferson Independent School District

UniFi 48-Port PoE Switches mounted in rack

HIGH-PERFORMANCE WIRELESS NETWORKING

Each UniFi HD AP offers 802.11ac Wave 2 MU-MIMO technology with 4x4 spatial streams to maximize multi-user throughput for high-density environments. Hardin-Jefferson now provides dependable, high-performance Wi-Fi that helps students and staff maximize online learning and enhances the efficiency of the student information system.

UniFi HD AP installed in high school computer lab

"As a network administrator, it's been quite awesome to use many of Ubiquiti's innate features not found in our previous Cisco hardware. Troubleshooting and network extensions are not only easy, but logically completed with the Ubiquiti GUI."

Lucas Turner, Network Administrator, Hardin-Jefferson Independent School District

INTUITIVE MANAGEMENT SOFTWARE

UniFi products are bundled with the scalable UniFi Controller software, which manages UniFi devices through a web browser or mobile app. Hardin-Jefferson uses the intuitive user interface for quick and easy network additions, configuration changes, and troubleshooting. SkyRider monitors UniFi sites via cloud access for convenient remote access anytime, anywhere.

"We are huge fans of the UniFi Controller and its capabilities, as well as the functionality of it."

Jess Warden, Vice President of Operations, SkyRider Communications

EXPANSION PLANS

During Hurricane Harvey, Hardin-Jefferson lost a middle school that had connected sports buildings and fields. To rebuild that part of the network, the district is seeking Ubiquiti's airMAX® technology and products for Point-to-Point (PtP) links. The network will also grow as the student population increases.

New to the Mississippi market, SkyRider plans to increase its presence in that state in the near future. In the meantime, SkyRider continues to participate in the E-rate program and deploy Ubiquiti solutions, especially at schools and libraries.

Visit Hardin-Jefferson Independent School District at www.hjisd.net

Visit SkyRider Communications at www.skyrider.net

For more case studies, visit www.ubnt.com/customers