COMMSCOPE®

Education

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Reggie Gaskins
Network Services Manager
Oklahoma State University

SYSTIMAX® Solutions

CommScope Networks 21,000 **Students** at World's Largest Student Union

GigaSPEED® XL and TeraSPEED® infrastructure solutions support 2,300 network outlets in the Oklahoma State University Union Building

Summary: Extensive improvements to the student union building at Oklahoma State University are enhancing its role as a hub of university life. A key part of the project is the new, high speed network that serves both students and staff, and supports a policy of environmental responsibility. To meet all its objectives, the project team chose network infrastructure from CommScope's SYSTIMAX® portfolio of copper and fiber solutions.

Since opening in 1950, the Oklahoma State University (OSU) Student Union facilities for meetings, entertainment, dining and retail have been among the best in any university. Regular improvement has maintained top class social spaces and accommodation for 400 student organizations as well Student Union administration.

The latest upgrade to the 611,000 ft², four-floor building in Stillwater, Oklahoma, aims to provide enhanced facilities with an emphasis on energy saving and the environment. To support this objective, the team specifiying the project wanted a high performance data network with a long life expectancy. This would give users faster access to information and applications, and also support current and future building control systems that reduce energy consumption.

Having reviewed all the options, the main contractor for the project, Flintco, selected CommScope and its BusinessPartner, Sagenet, to deliver the network infrastructure. Sagenet, which has offices in Oklahoma City, Tulsa, St Louis and Dallas, worked closely with OSU and Flinco to design a long-term solution to fast growing bandwidth demand.

The team from Oklahoma State University included Chief Information Officer, Darlene Hightower; Network Manager, Jay Lively; and Network Services Manager, Reggie Gaskins. Together, they reviewed and agreed to Sagenet's recommendation to build the infrastructure with a combination of SYSTIMAX GigaSPEED XL copper and TeraSPEED fiber solutions. Both these solutions are backed by CommScope's industry leading 20-year guarantees and application assurances.

The GigaSPEED XL unshielded twisted pair solution provides 1Gb/s connections from six new communications rooms to 2,375 outlets throughout the Union building. Performance of this cabling comfortably exceeds specifications of the Category 6/Class E cabling standards, providing extra bandwidth headroom for future applications.

The TeraSPEED single mode fiber solution used in the backbone connecting the main network distribution frame with server rooms supports data transmission at 10Gb/s. TeraSPEED fiber is a Zero Water Peak type that provides 50% more usable bandwidth than tradtional single mode fiber. Forty eight of these fibers are combined in the backbone cable installed at OSU, giving all the performance needed to support fast growing traffic on the network.

"The team agreed that this combination of solutions would give us the best network infrastructure to meet the building's needs for years to come," said Reggie Gaskins. "It will support new, network-intensive applications serving students and staff, together with advanced environmental controls to optimize building efficiency. And, equally important, its long, guaranteed life will avoid the waste of resources that comes from premature cabling replacement."

Taking a holistic view of environmental impact over the lifecycle of the building and its infrastructure, the project team made genuine reductions in its carbon footprint. In recognition of its use of sustainable materials, systems and techniques, the Student Union has been awarded an LEED (Leadership in Energy and Environmental Design) certificate.

Installation of the new infrastructure was not without its challenges since administrative offices in the building had to remain operational throughout the process. SageNet also had to deal with removal of old cabling and hazardous material in some areas before installing new cableways and communications rooms.

In the new communications rooms, the company installed SYSTIMAX M2000 modular patch panels to serve both copper and fiber connections. The fiber connections are made via high capacity, high density SYSTIMAX G2 shelves that can be used for a combination of splicing and termination. Their patented sliding format also provides both front and rear access.

Commenting on the completed project, Shawn Kordes, Regional Vice President of CommScope said: "The Student Union is a hub for students from all faculties and its network is used to access a vast and fast changing range of applications. Network infrastructure is an increasingly vital facility for the building, especially as it also serves sophisticated building control systems. Working with SageNet, OSU and Flintco, we were able to deliver a solution that met all the present and future requirements within rigid time and budget constraints."

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