Texas A&M University

Texas A&M Gets Power over Ethernet Where They Need It, When They Need It

With a student body of more than 49,000 and a physical campus of more than 5,200 acres, Texas A&M is among the United States' largest universities. The college's network has more than 100,000 Ethernet ports and approximately 3,000 wireless LAN access points, and must expand its network continually in response to campus growth and technological advancements. By using Microsemi Power-over-Ethernet (PoE) midspans, Texas A&M is able to maintain and quickly adapt to a technologically changing and constantly expanding network while keeping costs down.

Fast Facts

- PowerView Pro SNMPv3 and web-based management allows power to PoE devices to be activated and deactivated remotely, eliminating the need to physically walk the campus to restore device functionality

- Adheres to current and emerging PoE standards, allowing for longevity of the product and preventing the need for regular technology upgrades

- Microsemi midspans offer a full range of power solutions with plug-and-play installation, providing headache-free installation

- Midspans offer the flexibility to expand PoE capacity without having to interface with the data switch side of the infrastructure

- Future adaptability of the product line eliminates the learning curve—a new Microsemi midspan can be easily installed and understood, supporting current and future needs

Microsemi
Power Matters.™

About the Deployment

The Challenge

Texas A&M University's network has more than 100,000 Ethernet ports and approximately 3,000 wireless LAN access points. As one of the nation's largest universities, it continues to grow year after year—creating a need for regular network expansions. Local power on campus can have spikes and fluctuations, impacting and reducing access point reliability and forcing personnel to physically shut off and reset the power. With significant growth potential at the university, it needed a solution that allows uncomplicated upgrades through additional midspans, and other features that save manpower time and reduce complex procedures.

The Solution

Rather than opting for a PoE switch for its network—which can waste power, operates at high temperatures and lacks efficiency—Texas A&M installed Microsemi PD-6512G/AC/M 12-port Gigabit PoE managed midspans. This saves university personnel significant installation time, reboot time, money and power while providing flexibility to grow and adopt a new PoE capacity without having to interfere with the data switch side of the infrastructure. For example, if the university needed to install additional access points or cameras using a PoE switch instead of a PoE midspan, it would require an entirely new network system, which is time-consuming and expensive. With midspan solutions, Texas A&M can plug the new PoE device into a midspan and begin using them immediately.

In addition, Texas A&M needed the ability to monitor ports and access points. Microsemi's midspans with remote power management capabilities ensure fluctuations in power on campus no longer require multiple people to physically walk to the field to shut off and reset power, which can take up to a week to complete. Supporting Gigabit Ethernet data rates, Texas A&M may potentially upgrade the access points from IEEE802.11n to IEEE802.11ac while still being powered by Microsemi midspans.

The Implementation

In the end, Texas A&M upgraded its wireless access network using Microsemi PD-6512 devices to power Aruba Networks IEEE802.11n access points. The installation included an access-to-core or Metro Area Network (MAN) structure, supporting 10G, 100MB connections for optimal data transfer. Typically, a Cisco PoE switch could be used, however, using Microsemi's midspan solution allowed for the installation of Cisco non-PoE switches, in configurations from one to 40 ports per network closet. This in turn saves money and allows a more reliable and flexible solution.

Business Value

Microsemi's midspans offer flexibility and adaptability to changing network conditions, ensuring Texas A&M's network remains up-to-date without the frequent need to replace switches.

"When we first decided to go with PoE, I was on the fence between choosing a PoE midspan and a PoE switch," said Matthew Almand, chief network engineer at Texas A&M. "Within a year of our purchase, we would have had to replace the PoE switch we were considering twice just to keep up with the standards."

Advances in technology and changing situations will undoubtedly inspire the development of new PoE devices. As Almand wanted to avoid having to purchase and learn how to utilize new products, Microsemi provides his team with a wide array of midspans for specific installations. He appreciates that he can purchase a new Microsemi midspan and already understands it—eliminating a lengthy education process. **By working with Microsemi, Texas A&M benefits from financial savings, significant reduction in man hours, the ability to expand its network and deliver reliable access to its campus population.**