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CHALLENGE

Phillips Exeter Academy (PEA), a co-ed boarding school in New Hampshire, wanted to shift their primary network medium from a wired network to a campus-wide Wi-Fi network. PEA's goal was to provide end users with a wireless experience equivalent to the previous wired network and accommodate the rapid growth of wireless communication devices and Bring Your Own Devices (BYODs) on campus. The campus-wide network needed to support a student enrollment of approximately 1,050, of which 840 lived on campus. Additionally, PEA had approximately 200 faculty, 400 staff members, and numerous visitors and guests on campus at any given time.

SITUATION

PEA's IT department required a secure wireless solution to support approximately 1,700 users, each carrying three or more wireless devices. This amounted to a total subscriber population of 5,100 concurrent communicating devices which could include laptops, tablets, iPads, smartphones, and PDA's. Additionally, the Wi-Fi network needed to support internal two-way video conferencing between smartphones in all coverage areas to provide a smooth streaming session with synchronization between video and audio portions of the conference, as well as be scalable to support VoIP traffic.

The existing legacy system consisted of a minimal central controller-based wireless architecture that no longer fulfilled the bandwidth capacity necessary to support the wireless devices on PEA's campus. PEA's existing system also no longer provided the IT department with the visibility into the types of devices being utilized by the Wi-Fi infrastructure.

SOLUTION

Green Mountain's integrated communication solution design, implementation, integration, and optimization included advanced Wi-Fi technology in the 2.4 GHz and 5.8 GHz range. This solution utilized a unique industry product featuring modular, cellular-like "sectored" devices housed in an aesthetically pleasing circular

chassis that worked well with PEA's existing architecture. Green Mountain's overall solution design was able to accommodate PEA's bandwidth requirements by providing better transmit coverage and receiving sensitivity for the wireless devices on campus. The Wi-Fi solution included a network management system for encrypted security, monitoring, authenticating, and troubleshooting.

RESULT

Green Mountain's selection of advanced technology solutions was ideal for PEA to resolve their need for a secure, scalable, and flexible Wi-Fi network. These solutions were able to facilitate an innovative and forward-thinking learning experience at PEA that aligned with the mission and principles PEA was founded on in 1781.

LONG-TERM BENEFITS

PEA's Wi-Fi network provides a cost-effective system capable of adding additional bandwidth in specific areas of the campus within the existing units when needed. In addition, the system offers frequency re-use across the campus while mitigating radio frequency (RF) interference. This dramatically affects the throughput and user experience for streaming video and VoIP communications. New feature enhancements uploaded to the programmable radios can also be remotely programmed to either 2.4GHz or 5.8GHz to handle growing and shifting needs within PEA's academic environment. In addition, newer radio technology, as it becomes available, can be added in cost-effective modules.