greenmountain communications

Green Mountain Designs and Delivers NHSafeNet Statewide Public Safety Broadband Network

(603) 717-7117 • WWW.GREENMTNCOMM.COM

CHALLENGE

Green Mountain was challenged with constructing NHSafeNet, a wireless public safety microwave network contracted by the University System of New Hampshire and implemented under the University of New Hampshire (UNH) led U.S. Department of Commerce's Broadband Technology Opportunities Program (BTOP) grant titled, "Network New Hampshire Now (NNHN)." NHSafeNet was one of four primary broadband projects being implemented under NNHN at that time. The project was a collaboration of the New Hampshire Departments of Safety (NHDOS), Transportation (NHDOT), Resources and Economic Development (DRED), New Hampshire Public Television (NHPTV), and the New Hampshire National Guard. This project challenged Green Mountain to combine each stakeholder's existing parallel networks into a single shared network that would save taxpayers money by lowering support and equipment costs statewide.

SITUATION

The NHSafeNet project tasked Green Mountain with developing a strategic plan to improve and consolidate the existing statewide point-to-point microwave analog and time-division multiplexing (TDM) network that existed on 20 mountaintop sites throughout the state. Being one of the first states to integrate multiple stakeholders using existing traffic management protocols and configurations into a single shared wireless network, there was little to no guidance for designing New Hampshire's combined network. Green Mountain had to develop a unique network that allowed all traffic to flow seamlessly through one IT platform, as well as prioritize stakeholders and allocate bandwidth limits for each.

SOLUTION

Green Mountain designed a network for NHSafeNet that incorporated carrier class capabilities that were attainable by leveraging Multiprotocol Layer Switching (MPLS) that allowed for the configuration of sophisticated quality of service metrics and data flow controls. The NHSafeNet network required code to be developed for the new routers selected in order to meet the requirement of adding video streaming traffic to the network (mVPN). Green Mountain worked to install, configure, and test different code versions before providing feedback to the network engineer to finalize the best network code that delivers optimum performance for NHSafeNet.

RESULT

The NHSafeNet wireless public safety microwave network provides increased broadband functionality, resiliency, and bandwidth for the five stakeholders as well as other public safety offices throughout the state. The IP network will be utilized for routine and emergency communications such as Amber Alerts and natural disaster warnings as well as the NHDOT's Intelligent Transportation System. Additionally, data transmissions are sent digitally with greater detail across the state and to neighboring states through connections to microwave networks in Maine and Vermont.

LONG-TERM BENEFITS

The completion of the NHSafeNet project contributes to NNHN's mission to develop a high-speed broadband network and provides enhanced capabilities for future stakeholder initiatives. By expanding broadband coverage, NHSafeNet works to keep the state vibrant, innovative, and relevant for businesses, citizens, and educational institutions for years to come.

> ***"Given that NHSafeNet is one of the first projects of its kind for a state in the U.S., we are very pleased with the planning, execution, and results of this complex microwave network project... The ultimate goal of this project was to increase bandwidth and functionality across multiple public institutions throughout the state, thereby increasing connectivity, collaboration, and ease of access. Green Mountain was a pleasure to work with and we are thrilled with the successful outcome."***
>
> *Brian Shepperd, program director for NNHN and project manager for NHSafeNet*