



ADTRAN® Bluesocket® Virtual Wireless LAN (vWLAN)

The Tech-y Town of Westford Goes Wireless with vWLAN®



About The Town of Westford

The high-tech town of Westford, Massachusetts, is home to approximately 22,000 people. The town's wireless network currently supports approximately 3,000 users including nine schools, the town hall, police and fire stations, the town's senior center, highways, recreation centers and the water facility.

The Challenge

The Town of Westford had outgrown its wireless network infrastructure. It needed a new solution to support current demand and future growth, while significantly simplifying management for the town's small IT staff. The most significant growth was primarily located in the high school and the town needed to find a solution that would provide increased bandwidth and centralized control for the growing demands of the network.

The Solution

The Town of Westford selected ADTRAN Bluesocket vWLAN solution that virtualizes management functions to remove 100 percent of the controller hardware and significantly simplify operations.

The Benefit

ADTRAN Bluesocket vWLAN enabled the Town of Westford to streamline wireless network management while reducing hardware costs and achieving advanced scalability, seamless roaming, enterprise-class security and policy management. The town is now able to support bandwidth-intensive education applications and its growing population of mobile devices.

While once noted for its farms and woolen mills, the Town of Westford, Massachusetts, has had a long tradition of technological innovation. Situated approximately 45 minutes from Boston, the town began to act as a suburb for high-tech firms by the 1970's. It was home to offices for Red Hat and Samsung, and is currently the headquarters of Sonus Networks.

The Town of Westford has continued to evolve its status as a technology-savvy community. It recently replaced T1 lines throughout the town with a fiber backbone to link all the municipal buildings and schools.

More Technology Requires More Bandwidth

Like many other communities around the world, the Town of Westford began seeing the need for increased bandwidth and more efficient Wi-Fi® connectivity to support a growing number of users and devices accessing the town's wireless network. The network currently supports approximately 3,000 users including nine schools, the town hall, police and fire stations, the town's senior center, highways, recreation centers and the water facility.

"People use wireless differently now. Only a few years ago, we had one T1 line for all nine schools. Nobody expected to be able to stream media to devices while moving around the buildings then, but now they do. Every year brings so much change, and our legacy wireless infrastructure would have severely limited the services we could offer to support the community," said Kevin Murphy, Network Manager for the Town of Westford. He continued, "We also now have a far-reaching Digital Learning Plan for the Public Schools, and mobile technology is at the core of the curriculum changes. It just has to work."

Westford Academy—the town's only high school—consumes the largest portion of bandwidth. With more than 2,200 devices and 1,365 wireless users accessing bandwidth-draining education applications such as iMovie and collaborative Google documents, this one school was eating up half of the town's network capacity. "In the high school alone,



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Kevin Murphy, Network Manager
for the Town of Westford

our network sees over 300 1G downloads each day. I needed to offer the school a quality service to support this download size, consistently, all day long, by multiple people and at the same time," Murphy said.

Additional challenges for the Town of Westford IT staff included inconsistent management of wireless Access Points (APs) throughout the school system and dropped connectivity when roaming across campus. Moreover, the Town of Westford's IT resources were strained, making it difficult to efficiently support all nine schools as well as the other city departments that accessed the network.

"Wi-Fi management isn't our only responsibility. The IT department also monitors content filtering, IP telephony, firewalls and more. We really needed a Wi-Fi solution that made things easier," added Murphy.



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Westford Academy Graduates to ADTRAN Bluesocket vWLAN

Four years ago, the Town of Westford began looking for a new Wi-Fi platform that would support their evolving network and selected ADTRAN Bluesocket vWLAN solution. “We were sold on the upgradeability, interoperability with other solutions in our network and, most importantly, the fact that the server environment makes everything easier to manage,” said Murphy.

Before deploying the ADTRAN solution, each AP required a unique password. At the schools especially, those passwords were maintained by different individuals at each location—or sometimes not by anyone at all. As a result, resetting or updating APs was an IT nightmare. One of the main reasons ADTRAN Bluesocket vWLAN was selected was for its ability to simplify the management of APs and the wireless network as a whole.

The solution virtualizes the centralized management and control function of the wireless network architecture onto software, thereby removing 100 percent of the controller hardware and significantly simplifying operations, allowing the network to more easily scale to support the ever-increasing mobile device population. This cloud-based approach also dramatically reduces the cost of deploying large-scale Wi-Fi networks—a key benefit for many schools systems with strict budgets. ADTRAN Bluesocket vWLAN also provides seamless roaming and enterprise-class security and policy management.

Because of the advanced capabilities that ADTRAN Bluesocket vWLAN provides—along with support and advice from ADTRAN experts—the Town of Westford’s IT staff can streamline maintenance of the wireless network, freeing their time to be spent on more critical issues.

Town of Westford Growth Plans

The Town of Westford currently has 200 APs total, and has placed 51 of them in the high school to accommodate large capacity needs. The high school’s bandwidth was recently upgraded to 100 Mb, but due to continuous growth, it will likely be increasing soon. The town has also started to put APs in its middle and elementary schools to support ongoing e-learning initiatives.

Knowing their current wireless network can offer scalable support for years to come, the town’s school system is also considering a 1:1 laptop initiative for incoming freshmen. “The 1:1 program may require more bandwidth, but we won’t need more APs,” said Murphy.

Since the Town of Westford deployed ADTRAN Bluesocket vWLAN, residents appear to be satisfied with the reliable, capacity-rich wireless network. “Before ADTRAN, there were a lot of issues connecting to wireless. Now, we get glowing reviews,” Murphy added.

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