



By Leveraging Extreme Networks' SDN Platform, Enfield Revolutionizes Services and Dramatically Lowers Costs

CASE STUDY

MUNICIPALITY STATS

- Networking IT Staff: 2
- Residents: 44,000+
- Users: 3,000 - 4,000
- Government locations: 32

INDUSTRY

- Local Government
- K-12 Education

CHALLENGES

- Move to SDN while retaining existing infrastructure
- Provide high performance, on-demand network services with a constrained budget and limited bandwidth
- Prioritize and allocate bandwidth for critical applications
- Deliver a highly-available, secure, and easy-to-use network with visibility and ease of management for a small IT staff

PRODUCTS UTILIZED

- SDN Platform
- S-Series modular switches
- C-Series stackable switches
- Summit Series switches
- NetSight network management
- Purview application analytics
- Identifi Wireless Access Points and Appliances

RESULTS

- Optimized network access and bandwidth control
- Transparent visibility and ease-of-management
- Increased network security
- Operational efficiencies and cost savings
- Enhanced user experience with on-demand network access

The Town of Enfield, Connecticut is a suburb located in Hartford County, 18 miles north of Hartford, Connecticut and eight miles south of Springfield, Massachusetts. Home to over 44,000 residents, the Town of Enfield encompasses 32 buildings over an area of 1.4 million square feet.

As one of the few towns with a central network supporting all functions of the municipality, as well as public safety and schools, it was critical for the network to be highly available, highly secure, and easy-to-use. The Town of Enfield decided to deploy an SDN solution by Extreme Networks, enabling them to keep their existing network hardware in place and provide secure and scalable access to thousands of users and devices.

The Challenge

Enfield knew that providing an on-demand capability would be essential to successfully deliver a better user experience to the town. In order to meet the on-demand expectation of their customers and deliver secure, but easy access to the resources they need in a timely fashion, Enfield sought a way to achieve a better view of all network activities.

It was critical for Enfield to manage bandwidth priorities for over 600 educational applications and 4,000 devices at the schools, municipality, and public services to meet the needs of the diverse set of users. Among the teachers, there was a growing need for on-demand labs, based on carts that teachers could easily grab and run with. The Town of Enfield had been incapable of providing that, leaving teachers competing for resources against other, often non-critical, requests on the network, such as downloads to personal devices. Enfield needed a responsive network that would allow their small IT staff to quickly identify the needs of their users and prioritize access and bandwidth to ensure that critical educational applications and learning initiatives received priority over non-critical ones.

The Enfield IT staff sought to pilot an SDN solution that would allow them to better control network resources and bandwidth utilization at different times of the day, manage the peaks in bandwidth to better direct resources, and coordinate the needs of the devices on their network without requiring a rip and replace of their existing infrastructure. Bottom line, Enfield needed a scalable SDN solution without compromising their existing network technology.

“It is critical for our network to be highly-available, highly-secure and easy-to-use. With Extreme Networks and SDN this has all come together perfectly and the platform is easily managed with our small IT staff.”

- Carl Merrick,
Network Manager,
Town of Enfield

Extreme Networks' Solution

Enfield evaluated Alcatel, Cisco, Extreme Networks, Force10, and Hewlett Packard; ultimately selecting the Extreme Networks solution that allowed them to keep their costs low by utilizing their existing network gear, while still delivering the advantages and scalability of SDN. The high level of customer satisfaction with their existing Extreme Networks equipment, and knowing that Extreme Networks' SDN technology allowed them to keep their existing equipment, helped drive this decision.

“The cost of purchasing, implementing, and training on new equipment and services for our IT staff, with just two resources managing the day-to-day operations for 5,000+ nodes was not viable. Unlike the other vendor products, the Extreme Networks SDN Platform is not rip and replace, which is very critical in our world, as that would require town-wide referendums to approve infrastructure replacement. Extreme Networks has given us the ability to scale upwardly with SDN and utilize our existing products,” said Carl Merrick, network manager.

The new Extreme Networks SDN Platform manages the complete network solution, including S-Series switches at the core, C-Series switches at the edge, two Summit Series switches, IdentifiFi™ Wireless Controllers and APs, OneFabric Connect for the integration of other products, NetSight for network management, and Purview analytics for measuring application response time and managing bandwidth requirements.

Being able to better control the network resources and bandwidth with the Extreme Networks SDN Platform gives Enfield the ability to better control their operating expenses. “By managing peaks in the needed bandwidth to better direct resources and reduce or eliminate bandwidth usage at different times, we anticipate better utilizing our telecom and achieving significant savings of 20%, and possibly even 30%-50%,” said Chief Technology Officer Paul Russell.

Results

As a thought leader, innovator, and early adopter of SDN integration, Enfield has leveraged their Extreme Networks SDN Platform to better control and secure their network with a small IT staff while reducing costs and increasing operational efficiencies. Here is what they have achieved:

- 1. Improved Network Access and Bandwidth Control** - With the ability to manage network access and bandwidth, the town can now dedicate bandwidth to special events and make sure standardized testing and other educational initiatives have first priority. “Our Extreme Networks solution will allow 1,800 students to be tested online within a given time frame, in classrooms of 300 students simultaneously tested throughout the day,” said Merrick. Extreme Networks was also selected to provide the network infrastructure at the new high school that is being built. “The emphasis at the new high school will be on technology. With a STEM wing requiring dedicated wireless access and with 1,600 student iPads, a high-bandwidth network with proper bandwidth allocation will be critical,” said Merrick.
- 2. Visibility and Ease-Of-Management** - In this digital and wireless environment, so many innovative technologies will be connected to the city's network, including state-of-the-art wearables, new wireless devices, video communication, and digital and virtual classrooms. NetSight and Purview

make it simple for the city's small IT staff to view, manage, and control the entire infrastructure and all its components, devices, and applications from a single pane of glass.

- 3. Increased Network Security** – The Extreme Networks SDN Platform enables Enfield to stay nimble and efficient while also being secure. Enfield is staying ahead of security concerns by utilizing the wireless network's capabilities to track user activity and location. If a device is stolen or missing, the wireless APs provide the necessary information about the device and their location.
- 4. Operational Efficiencies and Cost Savings** – The Extreme Networks SDN Platform allows the town to utilize their existing infrastructure, saving them time and money right from the start. In utilizing the town's five Internet connections, SDN and Purview help identify the bandwidth requirements and allow Enfield to go from dedicated to burstable bandwidth. By identifying times when the Internet connection is not needed, such as after hours, the burstable solution allows the city to use bandwidth as needed, saving the town a great deal of money in the operational expense of telecommunications.
- 5. On-Demand Customer Experience** – With a much better view into the network, the Town of Enfield is well-positioned to provide a superb experience to all the users of the network service, opening up the next phase of on-demand experience. "People expect anything that has technology associated with it to be readily-available. Being able to supply reliable network access is a tremendous asset to our town," said Russell. The SDN Platform will provide a responsive network that has the ability to quickly adapt to the environment and allow the IT team to evaluate, anticipate, and identify the needs and appropriate the right bandwidth and access to users so when they need it, it's there.

Regarding their overall experience working with Extreme Networks, Russell says, "Extreme Networks is a vendor who truly encapsulates a partnership and when it comes to being able to successfully deploy networks for the town, they have always been there for us long after the ink has dried on the contract." With their SDN Platform in place, the Town of Enfield is on their way to realizing their vision of the future where a teacher can book a cart and get all of the needed network resources along with it, and when they're done that bandwidth can be released to another request.

As an early adopter of SDN technologies, the Town of Enfield is a great example of the many benefits that come along with the Extreme Networks SDN Platform. As Enfield looks toward a hosted data center solution to reduce their CapEx, while still utilizing some operational budget to manage and maintain hosted systems, their Extreme Networks SDN solution will be key to identifying and allocating bandwidth for connectivity.



<http://www.extremenetworks.com/contact> / Phone +1-408-579-2800

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