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Going Beyond the Network

From global enterprises to high-profile sports leagues, small towns, and college campuses, Extreme customers all have one thing in common: unmatched agility thanks to a network that helps them transform the way they operate. This eBook includes top stories, selected from among our 30,000 customers across the globe, showcasing how they digitally transform operations and build closer relationships with their customers, employees, and partners.

Commitment to People Before Technology

In this digital era, businesses deserve a partner that will help them drive competitive advantage, accelerate innovation, and improve customer experiences. These tenets define who Extreme is. Our commitment is to customer success; we collaborate with end users to build **Customer-Driven Networking**™ solutions from the enterprise edge to the cloud.

What makes Extreme Customer-Driven?

- ✓ Intelligent, adaptive, and secure innovation
- Dependable support and services
- Right size to do business with

To extend our commitment to customer-driven networking, Extreme is investing in software and AI to expand automation capabilities across our solutions, to create a secure, self-healing, and selfdriving network with the following attributes:

- Cross-domain and closed-loop automation
- Software-driven infrastructure
- Insights and analytics
- Open and standards-based ecosystem

This eBook describes how organizations drive digital transformation in their businesses by optimizing the fundamental layer of a business - the network.



Intelligent: Bowen Center

Bowen Center is a leading provider of mental health care in northern Indiana, servicing 21 counties with nearly 1,300 staff. Clinicians across the Bowen network were struggling with several challenges, including slow interaction times on electronic medical record (EMR) systems, failing wireless connectivity and the inability to deliver telemedicine.

Physicians often spend hours with EMRs and other computer-based work, making it difficult to provide care. When slow network performance burdened clinicians at Bowen Center, they partnered with Extreme Networks to overhaul its network infrastructure. Bowen's IT team removed consumer-grade equipment and replaced it with products from Extreme's Smart OmniEdge™ solution, resulting in scalable bandwidth and functioning EMR systems that can adjust quickly to business and technical challenges.

Since moving over to Extreme, IT satisfaction scores for Bowen are in the mid-90s out of 100, reflecting a 20+ point increase.

"The reliability of Extreme's solutions removed the challenges that were plaguing our staff. The high-level of performance that Extreme's solutions deliver is allowing us to transform our care and expand into new areas like telehealth, so we can continue to elevate the patient experience." - Andrew Grimm, VP of Information Technology, Bowen Center



Adaptive: City of Memphis

Home to FedEx and the world's second busiest cargo airport, Memphis is the global leader in transportation, distribution, and logistics. With a large population and a city footprint of roughly 324 square miles, it faces some challenges with delivering efficient and effective public services.

Tennessee partnered with Extreme Networks to create a powerful, adaptive network that can support technology-driven initiatives and lay the foundation for Memphis to be one of the "smartest" cities in the country. With a large population city footprint, delivering efficient public services is a challenge. To solve this, Memphis is working to deploy a smart, flexible network that lays the groundwork for a future-forward, resilient transportation system that seamlessly moves people, traffic, and cargo through the City.

Initial deployments enabled AI-powered IP camera implementations at 27 community centers for real-time anomaly detection.

"As we use technology to tackle challenges from pollution and traffic to health and public safety, we need an adaptive, software-driven infrastructure that works with third-party solutions, and provides a path to automation. Extreme Solutions will be instrumental in making our city one of the smartest in America." - Michael Rodriguez, CIO, City of Memphis



Security: Indiana Toll Road

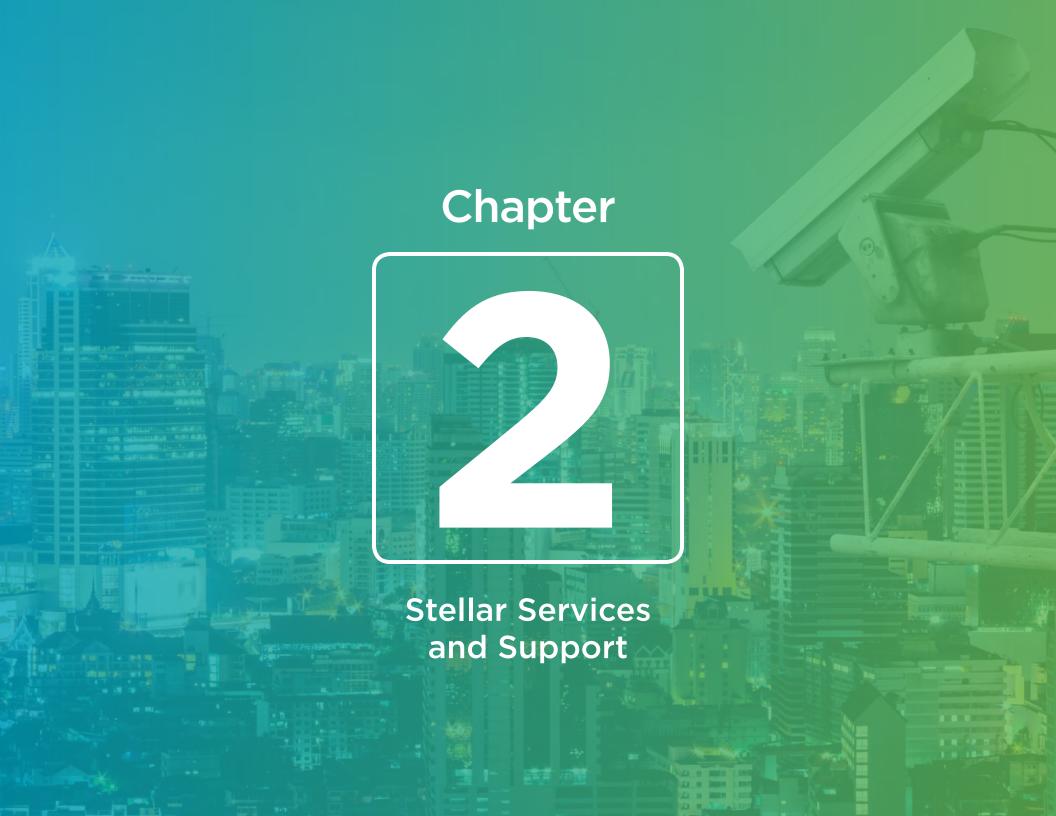
Indiana Toll Road Concessions Company (ITRCC) is a 24/7/365 operation running a large network infrastructure focused on powering tolling lanes, ensuring the safety of traveling drivers, and supporting thousands of connected devices necessary for the day-to-day operations. Security is key given the criticality of the network. Rules and policies had to be in place in order to identify potential issues effectively for ITRCC. Besides being innately secure, the network management solution needed to be intuitive and easy to use so operating resources could be used on more strategic initiatives.

Extreme's technologies ensure that customers and shareholders feel comfortable that Indiana Toll Road is dealing with their information in a secure environment. The Extreme solution has enabled the ability to build rule sets and security within the network environment and protect credit card information in compliance with PCI.

Traffic incidents have been reduced by 30% as a result of being able to warn users about accidents, lane closures, and work areas.

"We can talk to our users and warn them about accidents, lane closures, and work areas. We've prevented a significant amount of accidents that couldn't have been presented without this system." - Juan Ignacio Gómez-Lobo, CIO, Indiana Toll Road





Services: Ficolo Oy

Unlike many colocation services providers that serve individual businesses, Ficolo is the wholesale cloud provider for other service providers. When it became apparent that data center services were needed in Finland, Ficolo's founders leapt at the chance to provide them. Getting started for Ficolo wasn't easy; many network vendors couldn't cost-effectively deliver the small amounts of equipment Ficolo needed. Ficolo ultimately chose an Extreme Capital Solution to purchase its network as a service, with pay-as-it-goes, risk-free acquisition. ECS also enables Ficolo to include support in its colocation services offerings, creating a complete solution and a comprehensive offering for customers. When a customer needs to scale up or down, the network will never become an obstacle.

Ficolo has since gained a reputation as the colocation services provider of choice for international cloud companies to serve customers in Nordic countries.

"Extreme Capital Solutions
helps us launch new customer
deployments quickly and makes
the business case easy to
explain, which builds trust. It also
allows us to test new colocation
services or take a new direction
with very little risk." - Seppo
Ihalainen, Managing Director,
Ficolo Oy



Support: **Beaufort County Schools**

Beaufort County School District has 21 elementary schools, two pre-K-8 schools, one K-8 school, seven middle schools, and nine high schools. To ensure students perform well in a learning environment that is safe, nurturing, and engaging, the school district needed a new wired and wireless network to seamlessly support their 1:1 program for 22,000 wireless devices. After undergoing an exhaustive wireless network challenge, Beaufort selected a total solution from Extreme Networks that consists of edge, core, and data center switching, wireless, access control, management, and analytics. Beyond the technology, the IT team especially loves the fact that they only have one support center to call for all issues, which on the technical side is a huge time saver.

With their new solution, Beaufort County Schools increased bandwidth to support additional digital learning programs like virtual reality and online testing. "All of my dealings with GTAC support have been superb. I've been impressed with everyone from the sales staff to the technical staff. They've bent over backwards for us to ensure that everything is working as it should." - Dave Falls, Network Engineer, Beaufort County School District



Service and Support: West Suffolk NHS Trust

West Suffolk NHS Foundation Trust is one of the leading hospitals in the United Kingdom, with more than 430 beds, and the ability to serve 275,000. The hospital was in need of a network that could support their "e-Care" initiatives while also keeping maintaining a small IT team. West Suffolk Hospital chose Extreme Networks for their unmatched customer service and valued experience from working with hospitals around the world. Their Extreme solution, which includes ExtremeMobility, ExtremeSwitching, ExtremeControl, and ExtremeAnalytics gives them more insights into the network and the ability to expand operational services. As a hospital actively trying to improve customer care while using technology that counts, having a network provider with mission to provide unmatched services and support has set up the stage for success.

As a result of the network, West Suffolk is staying at the forefront of healthcare with increased patient satisfaction and reduced operating expenses.

"In an IT department as small as ours, Extreme Networks has helped us reduce the complexity of our network, making it easier for people to access and use our systems. We picked Extreme because of their proven customer support, and they have been a true partner every step of the way." Simon Gilbrook, IM&T Network Specialist, West Suffolk Hospital



Chapter



Right Size to Do Business With

Nimble: St. Xavier High School

St. Xavier, a private Jesuit, all-male college-preparatory high school near Cincinnati, Ohio, needed a network solution to support reliable Wi-Fi access for their Apple TVs and 1:1 iPad program, plus wireless for 2,100 high school users and 10,000 stadium users and finding a vendor who that could interoperate this goal proved difficult, but Extreme was up to the challenge. St. Xavier implemented an Extreme solution including wired/wireless, network management, and application visibility. Today, the network works perfectly, saving the high school time and money, and delivering a better educational and sporting experience for students, faculty, and fans.

Educators are now able to focus on education, not the technology, thanks to flawless interoperability with Apple products. "We faced a challenge when we set out to install Apple TVs in every classroom. We talked to three other vendors and they wouldn't do the proof of concept, nor did they have solutions in mind. Apple couldn't help, either. We were sold on the fact that Extreme was so willing to assist. They were our success for getting Apple TVs in every classroom." - Ryan Collins, Director of IT, St. Xavier



Personable: Sauder Woodworking Company

Sauder Woodworking Company is a global furniture manufacturer of ready-to-assemble furniture in North America, with 17 plants and 2,200 employees in Ohio, plus locations in California, North Carolina, and China. Sauder has made it their mission to stay at the forefront of furniture manufacturing and to do this they needed a network with unmatches reliability and support. When a factory network approached end-of-life, they looked to the sales and service teams at Extreme. The Extreme team sat down with Sauder and talked through their business initiative and within six months of deployment, Sauder saw a return on investment, with faster connection speeds and better support for the wireless environment.

A brand new wireless/wired infrastructure in one facility took less than 6 months to implement and delivered faster speed and a better supported wireless environment.

"My experience with Extreme is unmatched in comparison with other vendors. Our account manager cares to know me personally versus being focused on selling me products, software, and hardware. It's left a lasting impression on me." - Darin Seiler, Network Engineer, Sauder Woodworking Company



Responsive: New England Patriots

The Patriots recognized the expectations of fans to have seamless use of their mobile devices in-stadium, and their goal was to provide the best possible game day experience. To optimize fans' experience at the venue, the Patriots offered secure, high-quality Wi-Fi at Gillette Stadium. The Patriots are exceeding connectivity demands of users and their devices, but also enabling new fan engagement opportunities, including wearables, augmented reality, next-generation player statistics and virtual concierge services.

The Patriots also value Extreme's outstanding services and support. A problem struck when Gillette Stadium experienced a major air conditioning leak that ruined a remote IDF, ruining 20 pieces of network hardware. Within hours Extreme was onsite, contacting the other vendors involved and ensuring that the problem was fixed, and the Wi-Fi fully operational again.

Extreme for that one incident; it really proved to me that they did what they said they were going to do." - Fred Kirsch, VP of Content, Kraft Sports Production

"I am forever indebted to



70% of Patriots fans say their Wi-Fi experience at Gillette Stadium exceeds expectations.



Open Ecosystem: Seattle Seahawks

The Seattle Seahawks needed an in-stadium Wi-Fi solution to allow fans to fully utilize devices, increase in-stadium offerings, and provide a marketing platform. A reliable Wi-Fi network has allowed the Seahawks to enhance their mobile app with features like live video streaming, in-seat food ordering, integration of Ticketmaster, location-based engagements, and more. The Wi-Fi investment has enhanced the fans' game day experience, improved mobile functionality, and created a strategic business asset for the team. With a robust network solution, the Seahawks and CenturyLink Field can continue to add features and services with confidence that connectivity and bandwidth won't be a hinderance.

In the '17-'18 NFL season, the Seattle Seahawks saw an average of 35,000 users access the Wi-Fi network and on average 28,000 fans actively using the network simultaneously at each home game.

"We are extremely grateful for, and are proud of our partnership with Verizon and Extreme Networks. This partnership has allowed us to provide a world-class connected experience for our spectators in our stadium that feels like home."

- Chip Suttles, Vice President of Technoloy, Seattle Seahawks



Multi-Cloud Orchestration: Piksel

Piksel delivers online video solutions to some of the media industry's biggest names, including Channel 4, Sky, AT&T, and Liberty Global, enabling smooth implementation of products and solutions without impacting service quality. They also offer vertical industry solutions. After a rigorous certification process, Piksel became one of the first providers to offer network backbone connectivity for the UK Health and Social Care network. They needed to refresh their network architecture with VDX switches to improve port density and scale their laaS business, plus offer an agile network that supports public cloud services. Rapid response from Extreme Premier Support Services is critical.

As a result of Extreme technology, Piksel operates a service provider backbone and provides connectivity to 6 data centers in the UK to support its multi-cloud strategy.

"We've been using Extreme's data center solutions for border routing, providing cloud connectivity, and interconnectivity between data centers. Extreme's innovative network automation capabilities with VDX and SLX products meet our agility and analytics needs."

- Jon Dyson, Vice President of Network Infrastructure, Piksel



Open-Ecosystem: Servers.com

Based in The Netherlands, Servers.com delivers dedicated server hosting, colocation, and Content Delivery Network (CDN) services from the cloud. They are also one of the only providers to offer 40 GbE server connectivity for data-intensive applications such as Big Data.

Servers.com is growing quickly, and its infrastructure couldn't scale as needed or deliver flawless, on-demand services to customers. After a comprehensive evaluation, they chose Extreme VDX Switches and an IP fabric network topology. With SDN readiness built in and REST APIs, the Extreme VDX Switches also enable Servers.com to automate provisioning for new customers.

Today, Servers.com can support OpenStack development and SDN initiatives easily.

"Extreme has great, seamless support for OpenStack orchestration. This allows us to offer anything from baremetal dedicated networking to cloud networking." - Konstantin Bezruchenko, CTO, Servers.com



Chapter



Cross-Domain, Workflow, and Multi-Purpose

Automation

Cross-Domain: VentralP

VentralP Australia is the largest privately-owned web host and domain name registrar in Australia. The company was founded in Melbourne in 2010, and operated on a small scale for its first four years in business, before starting to offer higher bandwidth and more premium services and embarking on an expansion strategy. After experiencing aggressive business growth, VentralP realized that to improve products and services while delivering value, they'd have to rebuild the network core based on fibre, plus a complete upgrade of VentralP's switching environment. To extend network functionality, VentralP utilized Extreme SDN capabilities to automate service provisioning, including VLANs, network segregation, and implementation of security features.

Thanks to extensive automation capabilities, VentralP gained major competitive advantage in delivery of hosting services.

"There are many complexities in managing an increasingly large network. However, the level of automation offered by Extreme allows us to be competitive in delivering commodity web and email hosting services to our customers." - Angelo Giuffrida, Chief Executive Officer, VentralP Australia



Workflow: Waterman Business Centres

Waterman Business Centres, a serviced office business, has grown from 20 customers and about 60 people to over 1,000 businesses, while over 3,000 people utilize its workspaces and facilities. Rapid growth is expected to continue, with Waterman planning to double in size nationally over the next few years. They set out to design the ideal technology infrastructure built without some of the frustrations that commonly disrupt workspace customers. Deployment speed, security, management ease and scalability were all key criteria for Waterman in selecting Extreme as its network partner.

Waterman worked directly with Extreme Premier Services on the design and implementation of a secure Automated Campus solution based on Extreme Fabric Connect™. As a result, members are free to choose between managed services, or self-service. Further, thanks to automation and ease of management, Waterman has just one part time IT administrator looking after the network.

With over 8000 devices connected to the network, web download traffic on the network is between 1.6 and 3 TB per day.

"We've grown incredibly quickly, from just 20 members to 1,000 businesses in a short time, and we're looking to grow by another 15-20 office sites nationally. With Extreme, we've built a foundation that's automated and scalable. There is no way we could have these growth plans in place if we still had a lead time of 2-3 weeks to onboard each new customer."

Martin Reidy, Operations
 Manager, Waterman Business
 Centres

WATERMAN

Multi-Purpose: The Jim Henson Company

The Jim Henson Company has been an established leader in family entertainment as the creators of the Muppets and Sesame Street characters. The company's engineers and artists have been exploring new ways to take puppetry to the next level. As The Jim Henson Company pushes the boundaries of innovation, it was coming up against the limits of traditional storage networks. Eliminating any latency in file transfer would add time to the creative process and allow the editors to put more ideas onto the screen. With an Extreme VDX solution and deployment of VCS fabric technology, Jim Henson is able to greatly simplify provisioning and management while enabling easy expansion of the network to other locations.

Increased production efficiency by enabling multiple editors to work simultaneously, while also reducing data download time from 8 hours to less than 30 mins.

"There's an enabling factor
through Extreme's technology,
we can move data faster and
communicate in new ways. We're
able to tell stories in even more
compelling, more magical ways
than we've been able to do
before."- Steffen Wild, Visual
Effects Supervisor for Creature
Shop at The Jim Henson
Company





Data Center: **Telehouse**

Telehouse America provides secure data center facilities, managed IT services, connectivity, and cloud solutions designed for mission-critical IT systems. Telehouse America must deliver a peak traffic of 600 gigabits per second to over 1,200 extremely demanding customers, including Facebook, Amazon, Apple, and Google. Meeting these needs requires a perfectly stable, low-latency network with high port density and 100 GbE ports. To deliver peak traffic, Telehouse chose Extreme Networks SLX portfolio. The cross-domain automation, network visibility, and adaptable platforms provided through Extreme's Agile Data Center enable Telehouse to quickly respond to competitive threats and deliver better business outcomes.

By selecting the Extreme Networks SLX portfolio, Telehouse was able to successfully keep high-demand customers like Netflix fully satisfied.

"Extreme has a dedicated support team. They know our configuration and software, plus they run a lab emulating our environment. Because they know how we operate, I never have to explain anything or deal with issues." - Akio Sugeno, Vice President, Internet Engineering, Operations, and Business Development



Edge: Toi Ohomai Institute of Technology

Toi Ohomai Institute of Technology, one of the largest education providers in New Zealand, chose Extreme Networks to upgrade wired and wireless networks across eight campus locations and more than 70 delivery sites. Harnessing the power of Extreme's Smart OmniEdge™ and Automated Campus™ solutions, Toi Ohomai delivers improved network performance and access for students, teachers and staff with secure, reliable Wi-Fi coverage. Extreme's entire solution stack was able to deliver the business objectives the customer was looking for. Extreme's software in particular with Extreme Management Center was the encompassing offer which was able to pull through the wired and wireless solution providing an outcome that would deliver to their business objectives.

The system-wide update has given way to innovation, knowledge creation and collaborative learning.

"By working with a local business partner, BTG, to standardise on Extreme Networks, upgrade from 1G to 10G connections, and add redundant links, we'll give our students, teaching staff, and guest lecturers better, more consistent connectivity and access to the resources they need." - Rabindra Das, Head of Information Technology, Toi Ohomai Institute of Technology



Campus: Interfaith Medical Center

Interfaith Medical CenterInterfaith Medical Center is a not-for-profit organization dedicated to providing quality healthcare to the residents of Brooklyn, NY. The 287-bed hospital offers a wide-range of preventive, diagnostic, and treatment services and educates its community to achieve optimal health outcomes and quality of life. To deal with the management challenges and security threats that come with medical devices on the hospital's network, Interfaith partnered with Extreme Networks to deliver a "zero-trust" environment that uses micro-segmentation to eliminate threats and improve patient safety across the campus. They selected an Extreme switching solution, including Extreme Intrusion Prevention System (IPS), ExtremeManagement, and ExtremeControl. This allowed them to do for their physical network what they've done for the virtual network – eliminate security threats.

The hospital deployed ExtremeControl in one week with 1,000s of devices protected.

"Healthcare IT has to balance the risk of securing medical devices within a budget, plus managing patient care and hospital security. ExtremeControl enabled us to cost-effectively secure medical devices with network segmentation and a zero-trust environment." - Christopher Frenz, Director of Infrastructure, Interfaith Medical Center



Chapter **Insights and Analytics**

Insights: Zwarte Cross

Located in Achterhoek, the eastern region of the Netherlands, Zwarte Cross is one of the largest annual outdoor music and sports festivals in Europe. The event has grown immensely, driving the need for more staff and functions. To support all these entities, continue to run a smooth, safe event, and meet the mobile expectations of festival-goers, Zwarte Cross teamed up with Extreme Networks to design and deploy a purpose-built network solution for the 2018 festival.

Extreme's network technologies created an enhanced Wi-Fi solution to meet the needs of the festival and offer a quality mobile experience for visiting attendees, while ExtremeAnalytics provided a solution to better understand the behavior of visitors and staff on the network, determine mobile engagement patterns, and guarantee an optimal user experience for the Zwarte Cross application.

From the main stage on the second day of the concert alone, nearly 6 terabytes of data were transferred across the public network.

"Besides the wired and wireless network, we were able to leverage the analytics solutions. This gave us quick insights intobandwidth being used, how many access points were active, how many clients were connected, and how they were using the network. This allowed us to quickly track and solve network issues in the build-up to and during the festival." - Maurice Haafs, ICT Coordinator, Zwarte Cross



Analytics: Seaway Mall

Just a short way away from Niagara Falls, Seaway Mall attracts guest to not only a variety of retail stores and restaurants but also their very own movie theatre. With guests constantly visiting the shopping center it was critical for the retailers to understand how customers were moving so they could offer them a better shopping experience.

In addition to implementing Extreme access points, so shoppers could seamlessly connect to a fast, free network, Seaway deployed ExtremeAnalytics which allows them to discover how certain events impact network usage when customers are going to the food court, for example, and how long they are connecting. Beyond improving the user experience, analytics have helped the mall with property management, they are now able to use traffic flow information to negotiate lease terms for retail spaces.

Using Wi-Fi analytics, Seaway discovered that events increase shoppers' average time on site from 38 minutes to 48 minutes.

"We can look at data while it is happening, which is exciting.

Now we know how many people come to the mall, how long they are staying and how many are new or repeat customers. It also shows a heat map, showing the traffic flow after an event." - Michael Belcastro, President, Seaway Mall



Single Pane of Glass: SUNY Canton

SUNY Canton is Northern New York's two and four-year college for technology, health, management and public service. With a major equipment refresh on the horizon, SUNY Canton had the need to upgrade to the latest networking technology, including Wave 2 APs for greater bandwidth. Canton's main campus, bustling with 3,200 students and over 450 staff members, was in the midst of launching numerous advanced technology initiatives that would require around-the-clock support of their networkCanton's IT team was looking for a total network upgrade solution that includes a comprehensive, single point of view of operations.

With only one full-time network administrator on-staff, complete support was critical, and so was ease of use. The University implementation of Extreme Management Center enabled them to maintain staffing through upgrades and overall improved infrastructure.

The Extreme solution for SUNY Canton eliminated the need to add additional staff, eliminated outages, and future-proofed infrastructure.

"Ease of use was certainly important, especially having a single point of view and being able to take care of the network since we only have one network admin. Support was a huge item for us, and it was one of the primary reasons we chose Extreme Networks." - Kyle Brown Assistant VP for IT and CIO, SUNY Canton





For enterprises to succeed today, it's imperative to differentiate and personalize services to cater to the needs of their customers. Too often, network providers' one-size-fits-all, proprietary solutions stagnate the digital businesses evolution.

You need an Autonomous Network that can...

- Identify errors and correct them
- Baseline the behavior of users, and implement policy controls
- Understand the business-critical applications and automatically optimize them
- Detect and mitigate security breaches before they damage your business

But what's an Autonomous Network really made of? **Extreme Elements**. Extreme Elements provide enterprises the flexibility to pick and choose exactly what they need to yield positive outcomes for their business. It provides a self-sustaining foundation with elements that adapt and work together in harmony.

Extreme Fast Facts:

- Solution costs from Extreme Networks are 10% lower than other vendors' offerings
- 94% of support calls are resolved by the same network specialist who answered the call
- 3-year TCO of deploying Extreme Networks in a 6,600-employee organization is \$6.8m

100% Insourced Support, Ranked #1 by End Users

Extreme Networks Increases Efficiency:

- 25% less time for planning and deploying
- (v) 67% less time to patch and update software
- 54% less time to identify potential network-impacting issues

"Extreme Networks is a vendor who truly encapsulates a partnership. When it comes to being able to successfully deploy networks, they have always been there for us long after the ink has dried on the contract."

- Paul Russell, CTO, Town of Enfield and Public Schools

Extreme[™] Customer-Driven Networking