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Networking ROI Case Studies

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Building a Return on Investment (ROI) with Cloud Networking

Highlights:

- Futuriom studied two recent Extreme deployments at San Diego Community College District and E.ON to determine the Return on Investment (ROI) in deploying a cloud networking solution from Extreme.
- Users of Extreme's platform see many benefits – including ease of use, better worker productivity, lower operational costs, and improved security.
- Managing a single networking fabric with a consistent operations model has resulted in operational savings ranging from 20% as 50%, as cited by customers with recent deployments.
- The rising complexity of campus, enterprise, and cloud networking environments makes this the right time to modernize networking infrastructure to streamline operations.

1. Intro: More Complex Networks Demand Simpler Solutions

Cloud and digital transformations have changed the way that organizations need to manage their networking infrastructure. The growing complexity of networking domains – campus, wireless, datacenter, cloud, and hybrid/multicloud – means networks risk becoming a complex series of silos. Networking silos are no longer tolerable in the world of pervasive data and Software as a Service (SaaS) applications, where managers need to know what's happening with all aspects of their data, applications performance, security, and connectivity.

In its newest, cloud-based form, networking will be a powerful enabling tool for cloud applications. It will be used to integrate existing technology infrastructure. This will include linking traditional and legacy assets such as datacenters to the cloud, as well as building new applications that can tap into all this infrastructure – whether it's cloud-based or based on traditional technology. Enterprises may also need to connect to partner networks or contractors, including remote workers.

As Futuriom has been tracking, cloud networking technology can leverage AIOps, Application Programming Interfaces (APIs), and techniques NetDevOps to build a a single, cloud-based networking system to support high-performance connectivity for apps in any environment – such as enterprise infrastructure, wireless campus, datacenter, or cloud.

Many networking technology vendors aren't thinking about a holistic approach to solve this problem. It's likely you've seen networks marketed into artificial silos: campus wireless, datacenter, and cloud networking – but how many networking platforms are able to manage all of these networks using the same platform?

The reality is that technology and business leaders do not want islands of connectivity. The modern-day enterprise requires knowing what's happening on all these networks at once – to analyze data, ensure the high performance of applications, and ensure information security.

For this Leadership Brief, we partnered with Extreme Networks, which has driven its One Network, One Cloud strategy – an innovative approach to managing networks using a cloud approach with consistent deployment across any networking domain.

In this Leadership Brief, we interviewed and examined several users of Extreme's cloud networking solutions – including ExtremeCloud IQ, Extreme Wireless, and Extreme Wireless Access -- to see how a unified cloud networking portfolio could deliver reduced operating expense (OpEx), better productivity, and security – all parts of a better Return on Investment (ROI).

2. Potential Cloud Networking Gains: Management, Productivity, and Risk Mitigation

Today's complex networking environments requires a more integrated approach that can benefit network managers as well as users alike.

In speaking with Extreme Networks customers about their recent deployment of Extreme networking portfolio, all of which can be managed by the ExtremeCloud IQ platform, Futuriom has identified several forms of savings and ROI. Many of these savings have been measured (OpEx and maintenance hours) by the customers, but these same customers also cite immeasurable gains in productivity and economic activity.

Overall, our findings from interviewing Extreme customers indicates that the benefits stretch beyond technical elements to the productivity of the entire organization.

Embracing One Network, One Cloud

The premise of adopting a single platform to manage networking across campus, datacenter, wireless, or cloud, is this: The network should be the network, managed by one platform regardless of where the networking elements reside.

Overall, what we heard in customer interviews is that a unified approach can deliver faster setup and configuration, seamless operation, simplified management, reduced operating expenses, and better security. By making installation and implementation easier, it also provides productivity benefits that can boost economic activity.

Let's take a look at the potential benefits we found from interviewing customers using Extreme's products to modernize network infrastructure:

Area of Benefit	Potential Gains
Network Management	Simplified management view with one platform; flexible and fast onboarding that requires little technical expertise (in many cases can be executive by line-of-business); fast troubleshooting.
CapEx and Hardware Standardization	Consistent hardware and management platforms across networking domains – whether its wireless, campus,

	datacenter, or cloud. By avoiding separate management or network operating systems (NOSes), customers can deliver lower CapEx as well as OpEx costs.
Worker Productivity	Improved application performance; improved ease of use; speed of networking setup. These gains free up time for more productive activity and can boost revenue and overall efficiency.
Risk Mitigation & Security	A single management platform delivers monitoring across network domains. Automated network risk management; improved security; improved business continuity

Some numbers we gathered from examining customer rollouts:

- San Diego Community College District (SDCCD) expects a 50% reduction in the time to manage networking, resulting in savings and improved productivity among its networking operations team.
- European energy company E.ON projects a 20% reduction in operating expenses over the next three years.

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50%

Reduction in network operations time anticipated by San Diego Community College District

20%

Reduction in operating expenses expected by E.ON.

In the following sections, we dive into these gains in more detail.

3. How San Diego Community College District Realizes Many Operational Benefits from One Network

Dr. Peter Maharaj, Associate Vice Chancellor at SDCCD, is deploying Extreme at scale across most of San Diego's public education and library system. The district is being upgraded with a single networking platform from Extreme, which will eventually also be used to operate networks at San Diego's K-12 schools and public library system. The system is also likely to be extended to California's public university system at UC San Diego

Unifying Diverse Network Domains

Maharaj has embraced the One Network, One Cloud approach from Extreme because he believes the networking industry's traditional division of networking systems by segment – campus, wireless, datacenter, cloud, e.t.c – is unnecessarily complex.

Maharaj said he wanted a system that can implement the same networking management model and hardware platform anywhere – regardless of whether it's a wireless, enterprise, datacenter, or cloud implementation.

"We wanted to completely change of the way we think of the network," said Maharaj. "Thinking of network places [WiFi, campus, datacenter, cloud] is fundamentally wrong. The network is the network – you need connectivity, performance, and security – everywhere. With one cloud, management is easier."

Maharaj said using Extreme's platform will enable anybody in the district to use a secure single sign-on for any element of the network, whether they are in classrooms or public libraries – including accessing secure WiFi anywhere in the district. Another major benefit for Maharaj is that the standardization of the networking equipment with one management system to manage equipment whether it is deployed for WiFi, campus, or datacenter.

"The partnership with Extreme means you have better network reliability, security, and the capability to manage credentials through one system," said Maharaj in an interview with Futuriom. "Any of these networks can be managed with the same cloud network management system."

Tracking Operational Benefit

Maharaj said that the SDCCD will be tracking the success of the project across many metrics, but they have already realized measurable ROI. He outlined several areas where they are seeing benefits:

Worker Productivity. Maharaj said that one of the underappreciated benefits of a better network is the benefits it brings to the workforce, with better productivity. This includes not only rank-and-file staff, but

also the technical staff managing the network. When asked about the productivity benefits of managing the network, Maharaj estimates they will save 50% of the work for technical staff. "We are giving employees back about 20 hours a week – that's 50% savings."

Resiliency and Reliability. Another key component in the ROI of a modern networking system is the lack of downtime and business loss. Maharaj already sees less downtime after implementing Extreme's technology. "Things just work as you expect it to work, says Maharaj. "That's where we are headed with One Network. The reliability of the networking will improve – we are seeking to gain resiliency.

Security and ease of use. A key operational benefit of using a single networking fabric across any domain – campus, datacenter, wireless, and cloud – means you can implement a consistent security architecture with single sign-on for users. In the SSSDC, the networking fabric is based on an encrypted, single sign-on security system with a zero-trust architecture. The authentication system uses Microsoft's active directory and access identity management. "We have built-in security and authentication, says Maharaj. "People can work securely anywhere in the district.

"We wanted to completely change of the way we think of the network. Thinking of network places [WiFi, campus, datacenter, cloud] is fundamentally wrong. The network is the network – you need connectivity, performance, and security – everywhere. With one cloud, management is easier."

- *Dr. Peter Maharaj*

A Better Future for Students

Maharaj believes the benefits of the new network will extend well behind standard measurable elements such as reduced downtime and improved productivity. The project is part of a vision that the City of San Diego has to support economic growth for the future, by helping the students train for careers and jobs more quickly.

"We are looking at an economic factor at the macro level -- jobs for the future. What changes San Diego and California? The analogy is you have a good working car with no traffic that is moving to the destination without any disruption."

4. How E.ON Used Cloud Networking to Lower Opex

The SDCC example paints a bright future for expanding an easy-to-use network for San Diego's public school system. But what about other areas of gains? There are many examples of ROI using a single cloud networking platform to take care of connectivity needs from WiFi to the cloud.

E.ON is one of the largest energy companies in Europe, providing intelligent energy solutions to nearly 50 million customers. To drive team productivity and meet the needs of customers, E.ON was looking for a secure and scalable network that would guarantee uptime and simplify onboarding of new customers.

Cloud Management and Visibility

Kim Dengs, Head of Network Services with Extreme, says that E.ON chose Extreme because it was clear the company was committed to a cloud-based solution with a single operating platform. He says this brings more transparency and visibility to the networking, which he can see from one portal.

"Extreme really came into the picture when we were looking for a solution that was cloud-native. We see the end users, where they are, how they are connected, and we get a lot of transparency as to performance. Consolidating that and looking at the options Extreme gives us is something that we use on a daily basis to optimize."

OpEx Savings Through Easier Management, Onboarding

Dengs says the operating gains from Extreme's solution portfolio of ExtremeCloud IQ, Extreme Wireless, and Extreme Wireless Access has made it easier to onboard new networks and employees. "It's really easy to install," he says.

Over time, Dengs has calculated the savings and says it will help reduce networking-related OpEx by 20%, freeing up more capital for new projects.

"We are looking at the different journeys with Extreme over the next couple years, and I look at my operating expenses and what I need to invest in every year, I have a quite good reduction in OpEx of about 20%. That is money we can release in rolling out more access points and modernizing offices.

5. Conclusion: Cloud Networking Creates Broad ROI Opportunity

Our interviews and exploration of end-user case studies in several different markets yields the conclusion that the potential ROI from implementing cloud networking solutions from Extreme is broad-based, ranging from simple operations improvement to installation efficiencies, improved management, and better security.

Overall, several customers cited operational improvements, such as saving 20-50% on operations hours and costs. With the cloud revolution continuing and cloud-based applications and services becoming even more widespread, reliability on the network is likely to increase. To take advantage of cloud modernization, the push to expand more flexibility, easy-to-manage is likely to increase as customers seek a networking platform that can handle any connectivity applications from Wi-Fi to cloud services and datacenter.