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FUTURE OF CLOUD TECH

Networking Leadership Brief

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One Network, One Cloud, One Extreme: A Unique Architecture that Puts End Users First

Highlights:

- Extreme Networks has demonstrated remarkable growth by focusing on the strategy of creating “One Network, One Cloud, and One Extreme” which emphasizes a unified approach to networking.
- A consistent architecture for a diverse networking portfolio can deliver many benefits – including ease of use, better worker productivity, lower operational costs, and improved security.
- The deployments tracked by Futuriom back up this claim, with Return on Investment (ROI) gains in Extreme deployments ranging from 20-50%, according to users we spoke with.
- We spoke with several end users that said One Network, One Cloud, One Extreme architecture is important, as it simplifies what was the ever-increasing complexity of campus, branch, data center, and cloud networking environments.

1. Intro: It's Time to Simplify the Network

Managing networking in these times is no easy task. Enterprise networks have grown beyond the days when they consisted of Ethernet switches placed behind local firewalls and managed as wide-area networks (WANs) and Local Area Networks (LANs). Now there is also wireless, network fabric, cloud, , and much more.

The rapidly expanding nature of enterprise networks now includes many domains: Campus enterprise, Wi-Fi networks, edge networks, datacenter networks, and cloud networks. This requires a different way for organizations to manage their networking infrastructure. The growing complexity requires deeper integration, visibility, and insight into how all these networks work together. It's no longer helpful to toggle among a wide array of siloed networks and network applications to manage the network environment.

Extreme Networks has made it a mission to focus on simplifying these network operations by developing one platform to operate and manage any networking environment – whether its cloud, datacenter, enterprise, or wireless. Referred to as "One Network, One Cloud, One Extreme," the mantra is embodied in a single, cloud networking operating platform that can manage legacy and universal networking environments. The arrival of a single platform for any network also means it will be easier to launch new applications that can tap into all this infrastructure – whether it's cloud-based or based on traditional technology.

With sales growth of 30%+ year/year, we believe Extreme is succeeding because of its focus on a consistent networking operations model and simplified licensing schemes, which end users are responding. In studies and interviews we have conducted with Extreme's end users (See our paper, "Building a Return on Investment (ROI) with Cloud Networking," we have determined that customers can see operational savings ranging from 20-50% by using a single, integrated networking portfolio.

Why are the end users experiencing such gains? A simplified user experience cuts down on configuration, monitoring, and deployment time. In this Leadership Brief, we summarize the benefits of Extreme's One Network, One Cloud, One Extreme architecture and how those translate into ROI gains for customers.

2. Inside the One Network, One Cloud, One Extreme Architecture

All networks are now multi-domain and multi-cloud. They must connect to enterprise LANs, WANs, datacenters, Software as a Service (SaaS) applications, and cloud services. It's increasingly important to connect, manage, and secure these connections from one centralized place.

Cloud networking technology can leverage AIOps, Application Programming Interfaces (APIs), and NetDevOps to build a single, cloud networking system to support high-performance connectivity for apps in any environment – such as enterprise infrastructure, wireless campus, datacenter, or cloud. These advances make it easier for networking platforms to integrate their architectures to give end users more control over diverse, heterogenous network elements. Unfortunately, most vendors have not taken advantage of this.

With the One Network, One Cloud, One Extreme approach, Extreme has taken a leadership position in providing a flexible, unique approach in given end users control over many network domains and heterogenous. Extreme's cloud networking solutions – including ExtremeCloud IQ, Extreme Universal Wired, Universal Wireless, and SD-WAN -- use one platform to deliver reduced operating expense (OpEx), better productivity, and security – all parts of a better Return on Investment (ROI).

Inside the One Network, One Cloud Architecture

The goals behind One Network, One Cloud, One Extreme include reducing the risks of complicated network installations and simplifying operations by enabling an integrated, distributed, and scalable networks.

The key elements include:

One Network for Everything: Wired, Wireless, and SD-WAN devices connected by Extreme Fabric enable a unified, secure, and automated network as a single topology across campus, data center and branch.

One Cloud Manages Everything: Unified management of wired, wireless, SD-WAN, and IoT devices with choice of public (shared or private) cloud or ExtremeCloud Edge. Enhanced visibility, security, and control via AIOps, Digital Twin, location services, and more.

One Extreme Optimizes Everything: Universal licensing simplifies the license process while avoiding hidden costs. 100% in-sourced, certified global professional services speed time to value, mitigate outages, and help customers maximize their IT investment.

Users See Big Gains in Simplicity

In speaking to the end users and adopters of Extreme's One Network, One Cloud, One Extreme architecture, it comes down to one thing: Simplicity. End users would like to simplify the number of NOSes, management systems, and licenses needed to operate a network. Simplification always comes down to eliminating complexity. They want to manage all of the network elements with one platform.

When you think about the networks that most operators manage today, and the model can be maddening in complexity.

CHALLENGES

- The use of multiple NOSes requires extra training of staff on multiple systems to manage the same network.
- Separate networking platforms means multiple management products and screens for multiple networks and monitoring systems.
- Varied vendor systems and fragmented networking portfolios means different security and policy approaches for different networking platforms, such as wired or wireless.
- Vendor-dictated either/or deployment models (cloud or on-prem, but not both) is restrictive.
- End users often suffers from "license fatigue" of having to pay for licensing on a variety of networking platforms – sometimes from the same vendor.
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GOOD

- A single NOS for wired, wireless, datacenter, and cloud networks.
- A consistent, integrated policy and security architecture across domains, such as wired, wireless, and cloud.
- An integrated networking portfolio for all domains, managed by the same platform without separate screens or command-line interfaces (CLIs)
- Flexible deployment options including public, private, and cloud edge.
- One simplified licensing system for any device on the same platform.
- Increased visibility, control and security
- Ability to simply hypersegment networks

The bottom line is that solving all of these problems reduces end-user complexity and improves ROI, as we demonstrate in the follow section with an overview of our interviews with Extreme Customers.

3. One Network, One Cloud, One Extreme Puts the End User First

Extreme has tens of thousands of clients worldwide, including a third of the top Fortune 50. It has a particularly strong presence in the sports industry and stadiums – counting Fenway Group, Kraft Group, Major League Baseball, Manchester United, NASCAR, and the NHL among its customers. However, the company has a strong and diversified presence across several verticals including healthcare, manufacturing, retail, federal, state and local government as well as K-12 and higher education.

Futuriom had the opportunity to interview several of Extreme's customers, including Andrew Smith, Head of Head of Digital Service Delivery at West Suffolk Hospital (NHS), in the U.K.; and Dr. Peter Maharaj, Associate Vice Chancellor at San Diego Community College District (SDCCD). We also analyzed the details of a deployment at E.ON, one of the largest energy companies in Europe

Users See Big Gains in Simplicity

Extreme customers have fully embraced the approach of adopting a single platform to manage networking across campus, datacenter, wireless, or cloud. In interviews, they attest to the value of the One Network, One Cloud architecture to help them speed up deployment, securely connect more users, more rapidly deploy applications, and increase network up time.

In our recent study on the ROI of this approach, Futuriom identified key savings measured (OpEx and maintenance hours) by the customers. These customers cited operational savings of 20-50%, as measured by staff time to operate the network. These customers agreed there were addition gains in productivity and economic activity that were difficult to measure.

The 20-50% in operational savings and ROI of One Network, One Cloud, One Extreme derives from faster setup and configuration, seamless operation, simplified management, reduced training, and better security. By making installation and implementation easier, it also provides productivity benefits that can boost economic activity.

"ExtremeCloud IQ has enabled us to troubleshoot and manage faster and use less resources, saving timing, giving the clinicians more time to deliver care, said Smith, Head of Digital Service Delivery at West Suffolk Hospital, in the U.K.

In one example, Smith explained how ExtremeCloud IQ can diagnose the network from end to end – covering the hospital's Wi-Fi and LAN all the way to the cloud. The hospital frequently accesses a secure, cloud-based imaging system for MRIs. It can be used to diagnose problems end-to-end.

"The beauty of ExtremeCloud IQ is we can check that it has connected to a cloud service securely. We can see if there is a problem -- that's it's not on prem."

Overall, this was a consistent theme in customer interviews. By making installation and implementation easier, it also provides productivity benefits that can boost economic activity.

Dr. Peter Maharaj, Associate Vice Chancellor at (SDCCD), said the adoption of One Network, One Cloud has helped his organization scale a simplified architecture across San Diego Community College District's eight campuses and public library system. The simplicity and scale Extreme offers SDCCD can easily be extended throughout the broader community including K-12 schools and other public entities to create a "One San Diego" experience.

Maharaj believes the networking industry's traditional division of networking systems by segment – campus, wireless, datacenter, cloud, etc. – is unnecessarily complex. 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 the way we think of the network," said Maharaj. "Thinking of network places Wi-Fi, campus, datacenter, cloud] is fundamentally wrong. The network is the network – you need connectivity, performance, and security – everywhere. With one cloud, management is easier."

The network 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 Wi-Fi 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 Wi-Fi, campus, or datacenter.

Speeding up Innovation and Apps

Benefits of this approach extend well beyond operations, however. By consolidating management and network intelligence and providing data analytics, the One Network, One Cloud architecture can also enable new applications as well as the expansion of the networking within the organization.

West Suffolk Hospital's Smith told us in an interview that the One Network, One Cloud approach has enabled his organization to improve security, reduce operational costs, and accelerate innovation using the digital twin function.

"With a digital twin, we know what we want in a new building and we can build best-of-breed. Wi-Fi and IoT devices running across the Extreme to make sure the building is optimized. We take the configuration and replicate that to another [building].

OpEx Savings Through Easier Management, Onboarding

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.

Kim Dengs, Head of Network Services with E.ON, said that E.ON chose Extreme because the company was committed to 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."

Dengs says the operating gains from Extreme's solution portfolio of ExtremeCloud IQ, Extreme Wireless, and Extreme Switching 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.

4. Conclusion: One Network, One Cloud, One Extreme Puts the End User First

Extreme Networks has made a key point of differentiating itself with the One Network, One Cloud, One Extreme architecture, which puts the end user first by reducing network complexity.

Many of the vendors in the networking space have assembled a wide-ranging portfolio of products for various networking applications – for example, they have acquired separate Wi-Fi, datacenter, enterprise networking, edge WAN, and datacenter network product lines. But when they acquire these platforms there is no full integration into one platform. This approach doesn't necessarily serve the end users, but it often serves the vendors by layering in more complexity and licensing fees.

In our research with end users, we've found they derive big operational and time savings by consolidating their infrastructure under One Network, One Cloud, One Extreme. It's a huge convenience to manage, operate, and secure any networking domain with a single NOS that can be controlled from either the cloud or on premises.

Extreme Networks had done the hard work of integrating its portfolio into a single architecture. This flexible software management architecture that can be used for any component of its networking portfolio and managed from a single cloud-based platform.