

# Make Your Network Mobile



## Abstract

Your Enterprise is going mobile. Is your network ready? With the proliferation of mobile users and their devices within a campus or across continents, the challenges of operating and managing a network have fundamentally changed. IT has rapidly evolved from a world of static to a new world of mobile where everything—people, devices, machines, and applications—are in constant motion. IT is being asked to support end users with smartphones, tablets, laptops and other wireless peripherals in addition to their wired workstations. Compounding this challenge, the once languid data center has become a beehive of IT activity with the arrival and adoption of server virtualization and the promised nirvana of public cloud services. Users are beginning to define the services that IT must offer as they adopt tablets and the associated breadth and scope of mobile applications. They know what they need to be productive, and they expect the network to deliver, everywhere. This white paper will delve into this changing and challenging environment and introduce ways in which sophisticated Ethernet solutions from Extreme Networks® can meet the requirements of the new mobility that is upon us.



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## Is Your Network Ready?

Have you heard the term BYOD? “Bring Your Own Device” will become very important to you as the concept typifies the burgeoning population of mobile users with their smartphones, tablets, laptops and other existing wired devices. IT has to rapidly evolve from a static environment to a new world of mobility where everything—people, devices, machines, and applications—are in constant motion. The once static data center has now become a changing landscape with the arrival of server virtualization and the promise of public cloud services. Along with these infrastructure changes, users are beginning to define the services that IT must offer as they adopt mobile devices and the associated breadth of applications. Users know what they need to be productive and they expect their network to deliver. The result is that the challenges and demands of managing and operating an IT infrastructure have fundamentally changed.

Research highlights that change is underway at both edges of the network — the Enterprise edge and the Data Center edge. Workforce mobility is on the rise and in 2011, the mobile workforce is expected to grow to more than 70 percent of the total U.S. workforce.<sup>1</sup> On the other edge of the network, virtualization and cloud services are also on the rise. IT outsourcing and cloud services are expected to reach \$51 Billion during 2012.<sup>2</sup> And by 2015, virtualization will still be the highest-impact challenge faced by IT.<sup>2</sup>

## It's Time to Redefine Mobility

This shift in the relationship between IT, service providers and end users implies that mobility is no longer just about the movement of people and their devices. This new mobility carries a far greater emphasis on the portability of information and applications. The challenge lies in deploying a network that enables people, machines and applications to communicate seamlessly, across the 3G/4G and WLAN converged edge, through the network core, and into the virtualized enterprise or cloud-based data center. The complex requirements of new mobility exceed the intelligence and automation of many networks installed today. These networks were designed for fixed users and static resources, not to provide seamless services to people, devices and machines that are on the move.

## User Experience Impacts Workforce Productivity

Today's workforce is highly dependent upon the network — more so than ever before. When end users are held back by disruptions in service, unpredictable performance or unavailable applications, their productivity suffers. The wave of new mobility requires a network that automatically adapts to changing conditions, personalizes the experience for the user, and enables the fast integration of compute or application resources.

For example, the network needs to follow users and tune itself for security and traffic flows based on the user's privileges and location. It needs to permit hosting providers to deploy a best-in-class solution based on open standards, avoiding single vendor lock-in — enabling them to build and deliver differentiated services while maintaining purchasing power in the selection of technologies and vendors that are best suited to their needs. And, it needs to offer mobile operators a way to preserve existing legacy investments while paving the way for an infrastructure that is both cost effective and capable of growing 1000x over the next two decades.

Meeting the networking needs of your users and customers will enable your workforce productivity and efficiency to improve. That's why a stable, high-performance and mobility-enabled network that reaches users no matter where they are, is an investment priority for organizations of tomorrow.

## Making the New Mobility a Reality

Extreme Networks is making the new mobility a reality with networks designed for mobility from the core to the edge. Customers deploying our technology know who or what is using the network, they know what resources the users are requesting, they know where the user is located, and as a result can provide personalized access to approved resources and content—wherever and whenever.

Our networks know when a virtual machine moves in the data center and can ensure that the appropriate security and access controls follow it. And they enable granular visibility and control, so traffic flows are continuous, mobile resources are more secure, and troubleshooting is simplified. With this new level of visibility and awareness, IT now has the ability to deliver an end-user experience with pervasive, high quality and uninterrupted access to content and applications.

<sup>1</sup> Source: IDC, Worldwide mobile worker population 2007-2011 forecast, Doc# 209813; Morgan Stanley Research, September, 2010.

<sup>2</sup> Source: Gartner Inc., Gartner Symposium/ITxpo, Orlando, October 2010; Tier One Research, 2010.



Tangible benefits may include higher end-user satisfaction in addition to an increase in both business and IT efficiency—a top priority for CIOs today.

At Extreme Networks we enable the deployment of networks that adapt to the requirements of each individual within the enterprise, recognizing that each enterprise is unique. As the availability of public cloud services increases, the extensibility of an Extreme Networks infrastructure will enable the extension of this personalization from the edge of the mobile network into the hosted cloud, and on into the universe of physical and virtual machines.

## Your Seamless Mobile Experience

Since our founding 15 years and 25 million ports ago, Extreme Networks has always been at the forefront of innovative networking. That tradition continues today with our vision, technology, ability, and focused dedication to deliver an inclusive solution that spans the converged edge to the enterprise core and beyond.

We accomplish this through best-in-class Ethernet technologies; powerful end-point awareness that optimizes the Quality of User Experience by recognizing users, their devices and virtual machines; and through ExtremeXOS®, a modular, extensible, and always-on operating system that provides unique and powerful intelligence in the network. Furthermore, the power of ExtremeXOS guarantees service predictability from the edge all the way into the cloud. Whether the network represents a cost of doing business or an ongoing expense, our solutions offer network architects and designers the technology to build a more flexible, a more efficient and a more cost-effective infrastructure.

## ExtremeXOS

Feature-rich, modular operating system for simplified operations:

- Grooms traffic for predictable flows
- Secures users and traffic
- Adapts to threats and disruptions
- Promotes network longevity
- Increases resilience for always-on applications
- Provides visibility for fast problem resolution
- Enables integration with best-of-breed technologies
- Allows modification for personalized operations
- Provides extensibility for future public network and cloud services

## Build It Your Way

Using the open, standards-based Ethernet architecture upon which we've built our reputation, you can easily and safely integrate our new mobility-enhanced products with existing solutions within your environment. Design a network to work for your organization with a suite of automation tools and APIs allowing the network to serve your operation—the way you work. You need a next-generation converged network, providing automated virtual machine mobility and a seamless end-user experience. And Extreme Networks is delivering upon this vision, today.

## Mobile-Enabled Networks for the Edge, Core, and Data Center

Within the campus, we deliver new mobility for the converged edge, core and data center. This business-ready solution simplifies the network, converges services and automates operations so that building and managing the network is easier for IT. The network enables personalized and consistent network services and security so users have a seamless quality of experience. Your business is improved by providing employees with the tools to better enable productivity, by allowing IT Operations to become more agile, and by helping contain organizational costs. This places the CIO in a position of power—to negotiate with hosting providers to attract the best price for service, and to lead the discussion at the executive table through the ability to offer greater personalization and unique services.



## Meeting the Unique Needs of the Hosted Cloud

We deliver high performance, extensible and open platform that offers cloud providers standardization and the advantages that come from a best-of-class, multi-vendor approach. Our vision is to extend our campus awareness into the cloud, offering seamless and standards-based handoff for applications and content from the IT data center into the hosted cloud without impacting the user experience. An easier sale, easier on-boarding and easier adoption of the services offered by the hosting provider translates into faster access to revenue, through faster deployment, plain and simple.

## Preserving Investment for Mobile Operators

We help address the operator's dilemma, permitting them to grow their next-generation 4G networks while preserving existing investments. As we extend intelligence from the campus to the mobile network through standards-based interfaces, operators will be able to offer premium services to their enterprise customers, helping them to grow revenue through compelling new services.

## Best of Breed Networks

While the one-stop technology vendors have served companies well to integrate services and consistencies, they are often slow to meet the unique and dynamic needs of today's new mobility. By contrast, inherent operability between vendors in networking allows companies to select technologies and vendors that are better suited to their industry and the way they work. Research has shown that organizations which introduced a second vendor reported a lasting decrease in network complexity. Further, introducing a second networking vendor will reduce total cost of ownership (TCO) for most organizations by at least 15% to 25% over a five-year time frame.<sup>3</sup> In the past this may have created disruption to IT and users, but today best-of-breed networks are often more interoperable with richer features than solutions from the one-stop shop vendors.

## Extreme Networks is the Ethernet Innovator

Since our founding in 1996, we have built a reputation for staying a step ahead of the game. With a corporate ethos that demands vision and innovative thinking from every employee, from the inception of the company we helped set the standard for sophisticated Ethernet solutions from Extreme Networks meet the tough challenges that the new mobility has to offer.

With operations worldwide, we provide a selection of professional services and personalized service offerings, including network design, voice and security testing and network kit implementation, as well as 24/7 technical assistance around the world.

<sup>3</sup> Source: Network World, January 21, 2011, review of Gartner report.



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**Corporate and North America**  
Extreme Networks, Inc.  
3585 Monroe Street  
Santa Clara, CA 95051 USA  
Phone +1 408 579 2800

**Europe, Middle East, Africa and South America**  
Phone +31 30 800 5100

**Asia Pacific**  
Phone +65 6836 5437

**Japan**  
Phone +81 3 5842 4011

[www.extremenetworks.com](http://www.extremenetworks.com)