Independent market research and competitive analysis of next-generation business and technology solutions for service providers and vendors

HEAVY READING WHITE PAPER

Making Network Modernization Happen

A Heavy Reading white paper produced for Spectrum Enterprise

Spectrum ENTERPRISE

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INTRODUCTION

Core technologies are changing, new services and applications are emerging, customer demands are escalating, and networks are growing more complicated. Organizations thus need to sort out and simplify the complexities of their infrastructure and support their evolving technology strategies with powerful, state-of-the-art networks. That is where network modernization comes into play.

"Network modernization is a strategy aimed at simplifying an organization's network in support of innovation and growth," explains Bob Schroeder, vice president of Product Management and Marketing at Spectrum Enterprise. "The technology will always be complex."

Furthermore, organizations must meet these ever-shifting requirements in near real-time to remain competitive with their rivals and keep up with the market's constant changes. Network modernization can empower and enhance their agility to support the innovation that can develop and deliver new applications and data-intensive technologies.

In addition, organizations need technology solutions that can adapt quickly as their networks increase in both size and complexity. Network modernization can help here as well by flexibly supporting greater network scale and diversity.

How can network modernization foster the development of comprehensive technology solutions that support network performance, reliability, and security? How can these solutions scale to meet the expanding needs of enterprises and other organizations? This white paper addresses these subjects, focusing on the complex network pain points that can arise and the ways that organizations can resolve them by leveraging innovative technology solutions and strategies.

THE DUAL PROBLEM: CHANGING NETWORK DEMANDS AND GROWING NETWORK COMPLEXITY

In today's increasingly dynamic business environment, it is very much a given that change is constant. As organizations grow, shift, and evolve, greater network complexity inevitably comes with the territory.

Major drivers of the evolution of business connectivity and communication include the rapid migration of services and functions to the cloud, the huge growth of Internet of Things (IoT), and the pandemic-fueled surge in remote work. Other drivers include the ongoing shift toward lean IT and the notable moves forward in data, voice, and networking technologies.

Due to these drivers, enterprise networks must react and adjust to frequently changing traffic demands at a dizzying pace. Moreover, networks must make all these adjustments while also accounting for increases in the types, quantity, and quality of traffic they are transporting.

Given these daunting issues, organizations are increasingly searching for ways to enhance their networks as much and as quickly as possible. They are fervently seeking to reduce the complexity of their networks while also building in greater flexibility, all so they can handle the rapidly growing traffic demands from customers, suppliers, partners, and employees.

But it is not just about handling more traffic or even more diverse types of traffic. It is also about delivering better performance, greater reliability, and enhanced security to network users of all types. By simplifying their networks and making them more flexible and adaptable, organizations can achieve all these goals as well.

The challenge, then, is how best to reduce network complexity while simultaneously increasing network flexibility and agility. That is where many organizations have run into trouble before and will likely keep running into trouble unless they embrace and adopt new modernization strategies and solutions.

THE SOLUTION: REDUCING NETWORK COMPLEXITY AND INCREASING FLEXIBILITY

So, what is the answer? To meet the growing traffic demands and cope with the increasing network complexity, organizations must develop and deploy comprehensive technology solutions that can transform their networks and make them much more flexible and agile.

Network modernization strategies, however, are not just about any one technology solution. More broadly speaking, network modernization offers organizations the opportunity to enable transformational change across countless parts of their business.

There is more than one aspect to making those transformational changes happen. Powerful fiber connectivity, advanced voice and collaboration tools, and high performing WAN solutions and managed services all play critical roles in the transformation process.

With the right strategies, solutions, and partnerships in place, organizations can streamline network management and move past the barriers of legacy IT equipment to carry out this historic transformation and innovate more easily, effectively, and proactively. In other words, by reducing complexity and increasing flexibility, modern networks can unlock the incredible potential for growth and innovation that exists throughout an organization.

That means adding new capabilities without adding new infrastructure. It means providing more bandwidth that can work harder and smarter. It means automatically adapting to and defending against emerging cybersecurity threats. And it means enabling hardware and software, connectivity and cloud, vision, and execution to operate together seamlessly.

NETWORK MODERNIZATION USE CASES

How can organizations reap the numerous benefits of network modernization with the new technology solutions that are available today? There are plenty of potential use cases where organizations of all sizes can leverage such technology solutions from leading service providers like Spectrum Enterprise to meet the needs of their customers, clients, or patients. Here are some prime examples:

- A healthcare provider needing access to downloadable high definition medical imaging.
- A midsize retailer adopting or moving to a digital sales platform.
- A physician shifting from in-patient appointments to virtual appointments.
- A factory looking to automate its parts procurement and order delivery processes.
- An automotive dealer seeking to deliver fast Wi-Fi for video streaming in waiting areas for customers and their families.
- A tech startup aiming to set up a digital front door to reach and recruit new customers.

And here is a closer look at a use case for digitized healthcare:

Readily downloadable high definition medical imaging, virtual healthcare initiatives, and the digitization of electronic health records (EHRs) have all helped usher in a new era of bandwidth-intensive, data-driven healthcare. Current estimates suggest that a single patient generates close to 80MB in imaging and EHR data each year. With the average physician seeing approximately 24-plus patients per day, that can easily add up to more than 500GB annually that healthcare organizations must store on their networks for a single provider and make available instantly during consultations. As artificial intelligence (AI) algorithms progress, that data also could be used to vastly improve the quality of patient care. It is no surprise, then, that 64% of healthcare providers are pursuing digital transformation to revolutionize their patients' experiences, according to a recent survey of healthcare industry leaders conducted by the Healthcare Information Management Systems Society (HIMSS).

Solution: Healthcare administrators can turn to a modernized network to download large volumes of high definition patient imaging and EHR information from data centers, EHR service providers, and remote locations to improve the patient-provider experience.

Sources: "Health Data Volumes Skyrocket, Legacy Data Archives On the Rise," Harmony Healthcare IT, August 4, 2020.
"Is There a Limit to How Many Patients a Physician Can Treat?" UHC Solutions, August 12, 2020.
Tim Waters and Rod Cruz, "Digital Hospitals and Healthcare: What the Future Holds," Equinix Interconnections, December 18, 2020.

The common thread is that organizations of all types and sizes can realize greater operating efficiencies, make better decisions informed by hard data, and provide an exceptional patient or consumer experience with the aid of a modern network infrastructure. Without such an infrastructure in place, it will be increasingly difficult, if not impossible, for businesses to compete in their respective markets.

CONCLUSION

With business communication and connectivity evolving so quickly, it would be easy for organizations to get caught flat-footed. Rapidly escalating traffic loads, increasing network complexity, and mounting cybersecurity attacks threaten to bring businesses and their networks crashing down if they cannot adapt to the demands of a new age.

As discussed in this paper, organizations must embrace network modernization to survive and thrive. That means developing effective new strategies, adopting fresh technology tools and solutions, and forming strategic partnerships to simplify and streamline their networks and bring them up to speed. Once organizations can do that, the potential use cases abound.

Fortunately, businesses are not alone. Innovative service providers such as Spectrum Enterprise can help organizations transform their legacy communications infrastructure into a modern network that is designed for what is next.

ABOUT SPECTRUM ENTERPRISE

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable fiber technology solutions serving many of America's largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes networking and managed services solutions: internet access, Ethernet access and networks, voice, and TV solutions. The Spectrum Enterprise team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. For more information, visit enterprise.spectrum.com.