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Network Modernization: Pursuing Adaptability, Scalability, Security and Visibility

A Heavy Reading white paper produced for Spectrum Enterprise

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INTRODUCTION

With the rise of technologies such as cloud computing, mobility, big data, and video collaboration, organizations must be able to change—and do so quickly. Today's networks must not only fulfill these swiftly evolving requirements, but also be able to support new applications that organizations are developing and onboarding. Indeed, as IDC states in its *Network Modernization: Essential for Digital Transformation and Multicloud* report, "As applications have become increasingly important to business outcomes, and as the application landscape has been redefined by cloud and multicloud, the network must adapt architecturally and operationally."^{*}

Organizations must be able to meet these changing requirements in near real-time to stay competitive and keep up with shifting customer demands. Dynamic network flexibility fosters such agility to support the innovation that develops and delivers new applications and data-intensive technologies.

Unfortunately, many organizations are struggling to keep up as the technology landscape changes at an increasingly fast pace. In particular, already strapped IT resources are experiencing the strain of trying to stay on top of ever greater network demands.

In turn, the rapid pace of change is causing equally rapid shifts in the technologies upon which businesses rely. As organizations grow and core technologies change, networks are increasingly evolving into complex patchworks of multiple networking technologies. Add to that a lack of available skilled IT resources and the result is that overwhelmed corporate IT departments simply cannot keep up with the growing complexity of their networks.

This is where the concept of network modernization comes into play, allowing organizations to address these demands quickly so they can focus on other strategic priorities. But perhaps even more importantly, network modernization enables organizations to sort out and simplify infrastructure complexities and better support evolving technology strategies with a powerful, modern network.

"Network modernization is a strategy aimed at simplifying an organization's network," says Bob Schroeder, vice president, Data Product Management & Marketing, at Spectrum Enterprise. "The technology will always be complex. It's how you use it that can be managed."

^{*} Brad Casemore, [Network Modernization: Essential for DX Transformation and Multicloud](#), IDC, November 2019.

DEFINING NETWORK MODERNIZATION

So, what exactly is network modernization? We start by emphasizing what it is not.

Network modernization is not about setting a simple goal or milestone that can be achieved at any single moment in time. Rather, it is an evolving target to reach—one that is constantly shifting as organizations undergo transformation and new technologies continue to be developed.

Moreover, network modernization addresses the various internal and external disruptors that are driving networks to evolve at an ever quickening pace. These disruptors range from rapidly changing market demands to shifting organizational priorities to unprecedented technology advances.

“Technology is continually evolving and driving innovation. Many organizations struggle to keep up,” Schroeder explains. “Network modernization is the innovative driver that provides them with a competitive advantage.”

NETWORK MODERNIZATION DRIVERS

What are the key drivers of network modernization? Four prime examples are discussed below:

- **Developing and delivering new applications:** With a modern network, organizations can launch numerous advanced applications for employees and customers. The roster of possible applications includes hosted voice, video conferencing, remote productivity monitoring, pre-integrated virtual private networks (VPNs), home and office automation, customer self-care, cybersecurity, workforce mobility, and the like.
- **Improving organizational security:** Network modernization enables organizations to monitor business systems more closely and efficiently, allowing for the detection of information leaks or other security problems sooner rather than later. With a modern network, potential problems can be identified and fixed before they become real issues.
- **Supporting distributed and mobile workers:** As previously stated, network modernization fosters the ability to manage remote workforces more effectively by providing the scalable bandwidth and reliable network performance that workers need to carry out their jobs. Network modernization also makes it easier to monitor and measure the productivity and performance of mobile employees, no matter where they may be located.
- **Fulfilling business continuity needs:** Due to the agility and flexibility that network modernization offers, organizations can implement the disaster recovery plans needed during a network outage, minimizing disruptions to businesses and employees. They can continue to operate, possibly even at levels approaching normal times, because they can stay connected to employees, customers, and suppliers.

WHAT NETWORK MODERNIZATION SUPPORTS

Now that four of the main drivers behind network modernization have been covered, we look at what it supports. There are four core qualities that modernized networks foster:

- **Adaptability:** An adaptable network is one that can evolve smoothly and seamlessly over time as an organization grows. A dynamic network supports constant innovation and the systematic onboarding of new services and applications while simultaneously delivering a superior network experience.
- **Scalability:** A high performing network must be prepared to scale so that it can handle mounting traffic requirements as data usage increases and an organization expands. In particular, the modern network must cope with unpredictable growth in bandwidth demands by both end users and applications.
- **Security:** A highly secure network features around-the-clock monitoring and always-on support, no matter where business takes a company's workforce. With distributed workforces and anywhere operations here to stay, it is critically important that a network strategy be able to support flexible work environments in a secure manner. A secure network also reduces the burden on an organization's IT staff, enabling them to spend less time on security and more time on other critical priorities.
- **Visibility:** Network visibility provides the ability to monitor and analyze network traffic flows to prioritize applications and other important traffic elements, protect the network from harm, and ensure constant availability to customers and other end users. Such visibility into changing network traffic patterns and demands can help operators identify potential problems that could affect the network and either fix those issues early on or prevent them from occurring.

POTENTIAL USE CASES

How can organizations reap the many benefits of network modernization? Here are some potential use cases that show how network modernization can pay off for organizations of any size:

- **Small and midsize organizations:** Even smaller companies with a single brick-and-mortar site can take advantage of network modernization to support advanced mobility services such as unified communications, enabling the management of remote employees out in the field or working at home. Organizations can use modernization to increase their network resiliency, prioritize traffic on the network, and improve network management. They can also leverage network modernization to boost growth with new applications and services, as well as stay connected with suppliers and serve customers, especially during emergency situations.
- **Larger companies and enterprises:** Larger organizations with multiple locations can leverage network modernization to an even greater extent, using it to connect branch offices and headquarters with each other, as well as with data centers and cloud service providers. They can also take advantage of modernization to support and connect their widely distributed workforces and customers with ubiquitous Wi-Fi and other collaboration applications. Finally, they can tap into upgraded networks to support more advanced security services for different offices and remote employees, as well as suppliers and distributors.

CONCLUSION

As discussed, network modernization helps improve the adaptability, scalability, security, and visibility of a network infrastructure to cope with today's rapidly changing technology requirements and demands. In particular, upgraded networks can enable organizations to support new applications, deliver more advanced services, connect employees, customers, and suppliers, and ensure security more efficiently and effectively than ever before.

In other words, as Schroeder succinctly puts it, "Network modernization sets you up for growth."

Fortunately, modernizing a network does not need to be a painful, drawn-out process that organizations carry out on their own. Innovative service providers like Spectrum Enterprise can help transform legacy broadband lines into state-of-the-art networks.

Whether an organization is trying to fill skills gaps in IT resources or is looking to free up an IT team to focus on more strategic projects, Spectrum Enterprise offers fully managed services to ease the burden. It also takes a consultative approach, working with clients to tailor solutions that best fit their needs.

APPENDIX

About Spectrum Enterprise

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving 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. Spectrum Enterprise's industry-leading team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. More information about Spectrum Enterprise can be found at enterprise.spectrum.com.