WHITEPAPER

Network Modernization Enables Digital Transformation

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Digital transformation is no longer seen as a choice for the enterprise; today the only question for most organizations is how far along they are in their journey. Digitization is happening in three main areas, according to the analysts at IDC. The first is the core network, which IDC defines as cloud and/or traditional data centers. The second is the edge, where infrastructure often runs cloud-based applications closer to end users. The third is end points like computers, smartphones and connected devices.[1]

The network is essential to connect and control all these parts of the digital enterprise. Too often, enterprises focus on the hardware and software running their applications in the data center, edge, or end point, without giving adequate attention to the network that enables them. Both internal and external collaboration are enabled by the network, and without network modernization investments in next-generation hardware and software will not deliver on their promise.

Network modernization is the North Star for the attainment of digital transformation – creating opportunities and unlocking challenges for an organization. A partner with deep networking knowledge and expertise enables organizations to keep pace with advances in network technology. Instead of reacting to new developments, companies can proactively allocate resources to their advantage, embrace advanced Internet of Things (IoT) devices, and collaborate with clients on their terms without worrying about bandwidth availability, network security or workforce distribution. Dynamic technology is pervasive, but managing that complexity does not have to be overwhelming. Organizations of any size can benefit from understanding the trends outlined below and selecting a network partner who can take advantage of them.

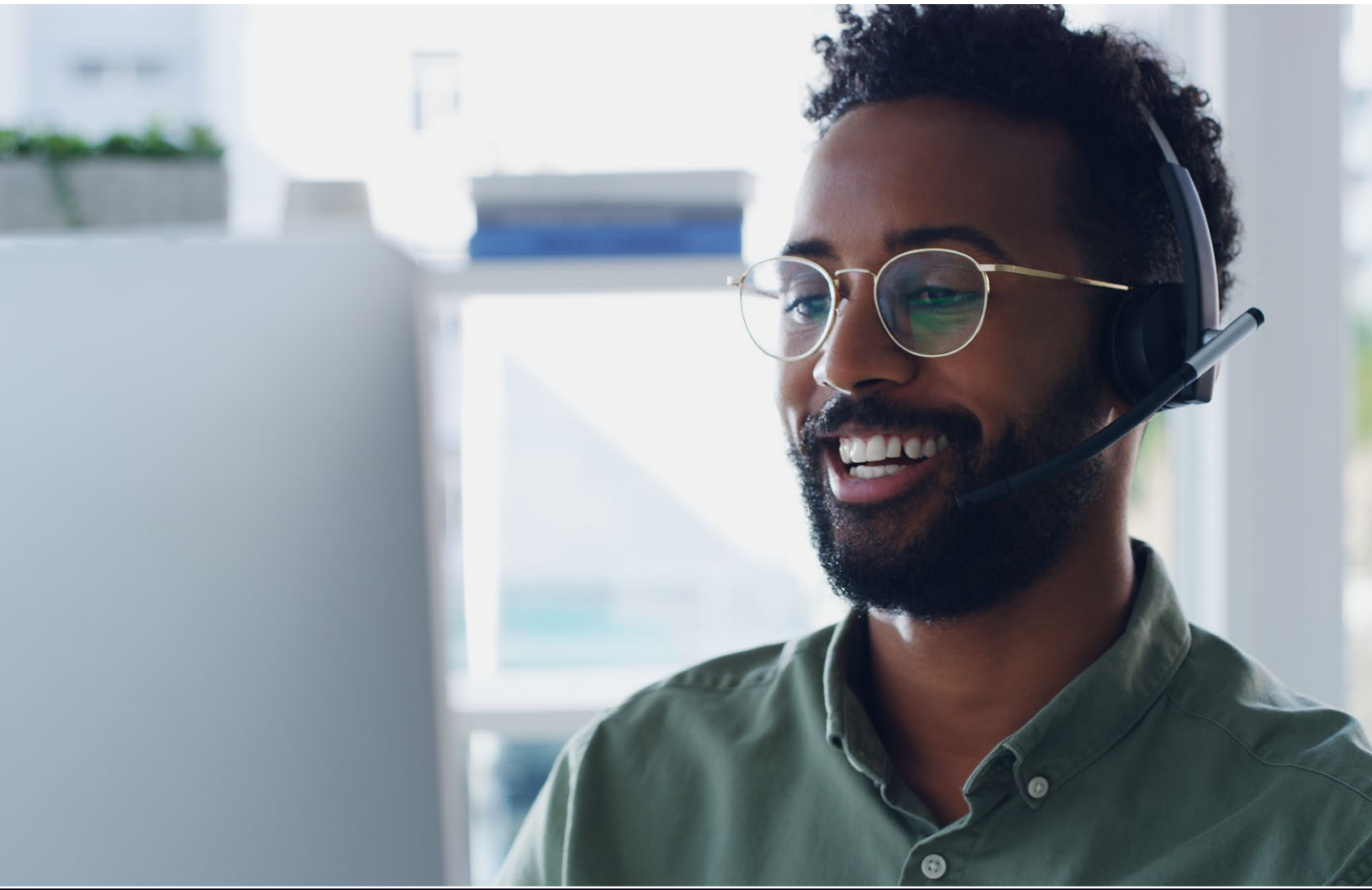
1. Source: IDC White Paper – #US44413318 The Digitization of World From Edge to Core

1. DYNAMIC NETWORK FLEXIBILITY

Flexible networks are those that can respond quickly to shifting requirements, such as changes in traffic distribution. The importance of flexible networks was highlighted during 2020 by the global pandemic, which moved millions of workers out of their offices and into their homes, dramatically shifting data traffic patterns in the process.

Cloud-based architectures are more flexible than traditional configurations. Bandwidth, compute power and storage can all be allocated more readily from the cloud than from siloed servers.

This network flexibility is a key competitive advantage for enterprises. No organization can predict the future, and even those that successfully forecast demands on their networks cannot always foresee the needs of their end users. When an organization onboards new applications and requirements, the network can be the differentiator that determines a company's ability to respond. Intelligent networks that help companies meet changing demands as they arise are one of the benefits of successful network modernization.



2. AGILITY

Solutions that combine state-of-art compute power with open source software give application developers more flexibility and networks need to keep up. When software manages network resources, the resulting agility allows applications to come online faster. It also enables intent-based networking, which is the use of artificial intelligence to identify and perform actions that the network needs to take.

Network agility can increase dramatically when resources are based in the cloud because infrastructure and applications can be provisioned as needed and deployed strategically. Enterprises see the advantages of cloud-based networks, but they worry that they will have less control of the network when equipment is not on site. One way to assuage these concerns is by providing maximum visibility of remote assets.

3. VISIBILITY

Network control, security, availability and reliability all hinge on visibility. Software may be able to run our networks, but humans need to run the software, and for that reason people need to be able to monitor network performance and receive network reports.

The command line interfaces used to see and manage files in traditional client-server networks are not adequate for cloud-based, software defined networks, which instead use APIs. These can make it harder for network engineers to immediately see and understand network issues or traffic patterns. Some enterprises choose managed network solutions in part because they offer visibility into network traffic patterns and performance.

An intuitive management portal can be a key enabler for companies that want to maximize visibility of cloud-based resources. These give an IT department better insight into the network's traffic and utilization by providing real-time data that can influence and inform larger IT initiatives.

4. SCALABILITY

It's hard to overstate the importance of network scalability for growing businesses. However fast a company is growing, it's probably safe to say that the network needs to grow faster. Not only do growing organizations need to adapt their networks, they also need to accommodate ever-increasing levels of traffic on their existing network connections.

Network modernization can make it easier for organizations to grow their networks efficiently. In many cases, this will mean overlaying a traditional WAN with an SD-WAN architecture. Organizations can deploy new WANs much faster because network administrators no longer have to touch each end user device to implement policies or install software.

Not only do modern WANs scale faster than traditional WANS, they are also likely to scale more economically. That's because they typically leverage low-cost, high bandwidth connectivity options with less reliance on MPLS.

Once network enhancements can be deployed at scale, enterprises can start to think about their networks as tools that can help the organization and its clients achieve business objectives. Companies with robust and flexible network capabilities may be able to complement the core services they offer customers with digital applications that can add value and increase revenue.

Flexibility, agility, visibility and scalability are all important tenets of network modernization that will support digital transformation. Regardless of industry or company size, almost every type of employee now relies on some kind of software, and those applications are likely to move to the cloud soon if they haven't already done so. To support this changing software landscape, networks must adapt architecturally and operationally.

Enterprises are learning that network modernization is more than an infrastructure upgrade that can take them to new levels of productivity and performance. Network modernization is an ongoing goal to address the constant internal and external disruptors that organizations must address to remain competitive. Companies that take advantage of this change will be ready for the next evolution of network technology, whatever it may be.

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More information about Spectrum Enterprise Network Modernization can be found at enterprise.spectrum.com/NetworkModernization.

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