

WHITE PAPER

Modernizing the WAN to Drive Digital Business

The cloud, the Internet of Things (IoT), data analytics and virtualization technologies are helping organizations transform into digital businesses. And for many companies, digital transformation means staying in business — whether that's by keeping pace with changing consumer demands, succeeding at global competition, or staying on top of emerging market trends.

Not all enterprise networks are built for the change that digital business requires. Many organizations use a hybrid approach to internet connectivity, adding endpoints based on project-specific needs. The result: potentially damaging network sprawl and a lack of seamless integration across separate networks, leading to inconsistent performance, security risks and management headaches.

Other organizations continue to depend on legacy IT solutions that lack the agility, flexibility and efficiency needed to support cloud and virtualization technology — key enablers of digital transformation.

SD-WAN to the Rescue

Eager to better support critical digital business and cloud initiatives, many organizations are turning to the software-defined wide area network (SD-WAN) approach. By creating an overlay network that moves network control into the cloud, an SD-WAN accomplishes several feats. First, it simplifies the management and operation of a WAN. And second, by eliminating the need to deploy proprietary or specialized WAN technology using costly fixed circuits or proprietary hardware. An SD-WAN can reduce network costs and complexity as well as increase network visibility and agility.

But modernizing a network can present a variety of challenges, from skills shortages to securing public internet connections. To better understand the challenges of enabling a dynamic network in support of digital transformation, in June 2018, **CenturyLink partnered with IDG Research to survey 100 respondents in IT-related functions in the finance, healthcare, manufacturing, and retail industries.**

The study examined the objectives and challenges driving WAN update plans today and the resulting business impact of those challenges. The survey also explored the use and planned use of SD-WANs to manage and automate hybrid WANs.

The Impact of Digital Business

Why must organizations modernize traditional networks and update WAN connectivity to support digital business?

These days, savvy retailers are delivering customers real-time access to information about everything from product availability to shipping costs. Food manufacturers are relying on data analytics solutions to predict consumer trends and better understand customer preferences. Government agencies are embedding sensors in everything from parking lots to streetlights to improve public safety and manage traffic flow. And healthcare providers are creating cloud-based portals that enable collaboration and information sharing across hospitals and universities.

But responding to today's challenging business environment with data analytics, cloud and IoT strategies requires a network that can connect multiple network technologies into a single, more manageable environment.

It's easy to understand why. Digital business technologies, such as cloud-based and mobile-based applications, require high performance across the WAN and can consume large amounts of bandwidth. In fact, 48 percent of the survey respondents said the biggest bandwidth drivers at branch locations are cloud workloads and applications.

And the cloud's consumption of bandwidth is only likely to increase: The worldwide public cloud services market is projected to grow 21.4 percent in 2018, to \$186.4 billion — up from \$153.5 billion in 2017, according to [Gartner](#). And by 2021, more than half of global enterprises already using the cloud today will adopt an all-in cloud strategy.

Big data and analytics applications (according to 43 percent of the respondents) and IoT (37 percent) also drive significant bandwidth consumption. In fact, [Gartner](#) predicts that 20.4 billion connected things will be in use worldwide by 2020 as IoT-enabled automotive systems, smart electric meters and commercial security cameras gain popularity.

And although it's not as innovative as cloud and IoT applications, more than one third — 34 percent — of the respondents cited email as one of the biggest drivers of bandwidth consumption.

With bandwidth-consuming applications multiplying and more enterprise traffic than ever flowing over public and private networks, the time for WAN modernization is now. Today's organizations need a connective network infrastructure that can scale with IT platforms and adapt to user demands, all while increasing centralized policy control and security for time-strapped IT teams.

After all, the network is critical to business success and forms the basis of any digital business strategy. It's the connective tissue that not only links cloud-based offerings, from Salesforce.com to Microsoft Office 365, into a single environment, but also determines their performance.

Yet, more than 95 percent of the survey respondents have experienced negative consequences from WAN management challenges. These challenges include compromised application performance (37 percent), increased network and management costs (37 percent), costly bandwidth purchases (36 percent) and missed revenue opportunities (34 percent).

The Increasing Adoption of SD-WAN

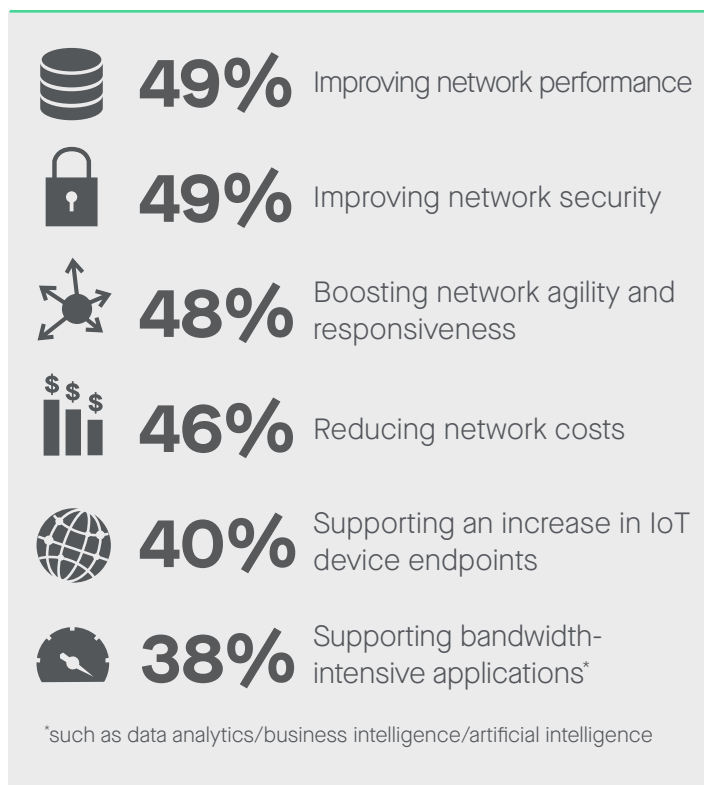
No wonder a growing percentage of organizations are taking a proactive approach to resolving their WAN management challenges with SD-WANs. And for good reason: an SD-WAN addresses hybrid WAN management while delivering a foundation for digital business. It accomplishes this in three key ways. First, it consolidates disparate network point services to deliver better performance, security and cost efficiency across the WAN. Next, it provides users with direct secure, local access to cloud applications in public as well as private environments. And, finally, for IT teams, it delivers greater bandwidth without compromising security.

These factors are helping drive greater adoption of SD-WANs among organizations. One-third (33 percent) of the respondents are already leveraging SD-WANs for hybrid WAN management, and more than half (57 percent) have plans to do so over the next 12 to 18 months.

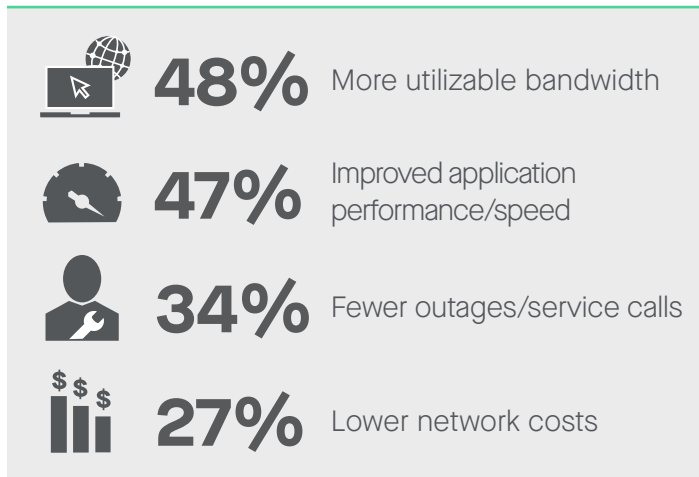
From an industry standpoint, retail organizations are taking the greatest advantage of SD-WANs, closely followed by healthcare, financial services and manufacturing organizations. One possible reason: Retailers must rely on robust networks to support a wide array of functions, such as point-of-sale systems, Wi-Fi access, self-service kiosks and digital signage. Manufacturers, on the other hand, are more reliant on legacy systems.

However, of those respondents planning to support their hybrid WAN with an SD-WAN strategy, many are still in the early stages of adoption. A staggering 79 percent are still in active research mode, and only 12 percent are piloting related projects.

But expectations run high: Organizations are banking on their planned WAN updates to deliver a wide variety of benefits. Among the respondents, the most anticipated outcomes include:



On the flip side, organizations that have already implemented a hybrid WAN with an SD-WAN strategy are already starting to see improvements in four key areas. These include:



Together, these benefits promise to advance adoption of SD-WANs, especially with the growth of the cloud and increased pressure on organizations to digitally transform.

Obstacles Ahead

As adoption widens, organizations will increasingly recognize the benefits of an SD-WAN strategy. Yet WAN management continues to present key challenges, from skills shortages to legacy IT systems. In fact, 39 percent of the respondents identified skills gaps that inhibit change as a top challenge. As digital business becomes the norm, mastering every possible technology that could be provided to users isn't a reality for most organizations.

The challenge of managing bandwidth needs and prioritizing network traffic as organizations add more and more branches, each one requiring software as a services (SaaS) and multicloud connectivity, concerned 38 percent of respondents. Other barriers to adequate WAN management include getting optimal performance and reliability with internet connections (36 percent), outdated/cloud-unfriendly existing architecture (34 percent) and managing choke points and inefficient routing for business-critical applications (34 percent).

Although the challenges vary, there is widespread consensus when it comes to extending a private network across a public network. In fact, 100 percent of the respondents cited it as a major obstacle. Security was also highly identified (78 percent of the respondents) as a chief concern. Other perceived

obstacles include performance (62 percent), integration (36 percent), bandwidth allocation (32 percent) and management of multiple connections (14 percent).

Security First

Regardless of public or private network, a majority of the respondents (58 percent) find it extremely or very challenging to address WAN cybersecurity vulnerabilities and risk.

The majority (69 percent) of these respondents are C-level executives whose focus is on protecting consumer data and keeping corporate stakeholders confident in the business's overall operation. Director and manager titles represent 25 percent of the respondents.

Said one survey respondent: "We are in a retail environment, so we will live or die by the security of our customers' information."

From an operational standpoint, though, more than one-third — 39 percent — of the respondents consider technology changes, such as mobile access and data analytics, to be the biggest operational constraint in WAN transformation. Other obstacles include budget changes (33 percent), concerns about the potential disruption of or risk posed to operations (30 percent) and increased organizational complexity (27 percent).

Even in operations, a lack of highly skilled leaders surfaces as a chief concern for organizations. Among the respondents, 27 percent see skills shortages as an obstacle to WAN transformation and 17 percent said staffing shortages threaten SD-WAN adoption.

"Implementation requires a full complement of IT personnel on a [WAN transformation] project, which will leave us short-handed," said one respondent. To mitigate this, he noted that his organization is "ramping up hiring staff to minimize any disruption of business activities"—a costly and time-consuming endeavor for a company of any size.

The Value of a Managed Services Provider

To overcome WAN implementation challenges such as skills shortages, an increasing number of organizations are recognizing the value of working with a third party. In fact, nearly two-thirds (65 percent) of the respondents have experience working with a managed services provider (MSP) to manage or help with WAN transformation.

The good news is that the advantages of such a partnership can be measured in financial, operational and technological terms. Efficiencies gained since leveraging a managed services provider for WAN transformation include:

- 37%** Reduced network costs
- 37%** Increased network speed
- 35%** Better bandwidth optimization
- 31%** Support for cloud application access
- 29%** Better network agility and responsiveness
- 29%** Improved security
- 26%** Improved application performance

In addition to these already realized competitive advantages, organizations also expect to enjoy even greater efficiencies going forward as they team up with experienced third-party providers. Efficiencies expected from use of an MSP in the next 12 to 18 months include:

- 36%** Reduced network costs
- 33%** Improved security
- 30%** Support for cloud application access
- 30%** Better reliability, fewer outages
- 28%** Improved application performance
- 28%** Better network agility and responsiveness

Most organizations are looking to MSPs to deliver a comprehensive set of services, including network connectivity/transport, software/customer premises equipment (CPE), WAN design, deployment, configuration, management and ongoing support. In fact, more than three-quarters (79 percent) of the respondents place critical or high importance on the ability of a potential MSP to provide a complete end-to-end network solution. The best part: An MSP may not require an incremental budget as organizations gain greater operational efficiencies and find ways to reallocate resources.

Not All MSPs Are Created Equal

Organizations look for particular attributes when selecting a third-party partner, namely:

- Experience with network security and solutions
- Ability to customize solutions in a unique environment
- Optimum price/total cost of ownership
- Cloud service interconnectivity

Even with these guideposts, it is imperative to take the time to familiarize yourself with each potential vendor's technology and how their solutions will work with your architecture.

Another important step: decide what you want to gain from a third-party partnership. Organizations lacking in-house expertise will turn to an MSP for 24/7 tech support to resolve issues across the entire WAN. Other organizations are looking to relieve their IT teams of processes such as upgrade management, release certification and capacity management. Whatever the objective, partnership with an MSP can lighten the load for resource-strapped IT teams while lowering costs by shifting capital to operational expenditures.

The Bottom Line

In this era of digital transformation, an SD-WAN is more than a software component. It's also the foundation for a widening web of innovative applications and services — tools that are enabling organizations, from retailers to manufacturers, to innovate quickly and better serve their customers. In the end, by leveraging an SD-WAN for hybrid WAN management and partnering with the right MSP, organizations can achieve the speed, agility and scale that come with a cloud-enabled hybrid IT environment.

Discover why the future of hybrid IT environments depends on the power of an SD-WAN and the expertise of a managed services partner.



Call 1.877.453.8353 | Click centurylink.com | Email info@centurylink.com

