Will your network bend or break?

How to anticipate and stay ahead of evolving enterprise needs

More than ever, networks are the backbone of enterprise activity

Yet the pressure of increasing traffic, data, users, applications and devices across complex new landscapes makes it harder to predict when additions to the technology stack (or the workforce or partnerships) will degrade or even sideline enterprise network operations—and what the impact of that action could have on performance and throughput. Without an eye to the future, it’s no wonder many IT managers are uncomfortable guaranteeing their network is ready to handle new workloads or applications.

Most organizations don’t know exactly what’s happening on their networks.
Unpredictability abounds

The hard truth is that most organizations don’t know exactly what’s happening on their networks, including the number of applications running, traffic priorities or available bandwidth. Yet moving from guessing to knowing is crucial for three reasons:

1

Limiting new technologies undermines customer-centric operations, and playing it safe invites blowback from customers and internal users (IT’s other “customers”) who are familiar with easy, on-demand consumer technology and apps.

2

Hybrid IT environments encompassing both data center and cloud will work only if networks connecting them are reliable and meet performance requirements.

3

Companies that don’t take proactive steps to enhance their network capabilities risk losing market share, employees and perhaps even IT job security.

WAN under fire

There are a variety of forces bringing rapid change to the WAN

60%

The cloud managed service landscape is becoming increasingly sophisticated and competitive. In fact, by 2022, up to 60% of organizations will use an external service provider’s cloud managed service offering, which is double the percentage of organizations from 2018.¹

12.3B

mobile devices by 2022²

77

exabytes per month of mobile data by 2022²

Get ahead of change

There’s no one-size-fits-all method to predicting the impact new applications, trends and technologies will have on a network. As always, the best solution depends on where an organization is now and where it wants to go.

But sharpening your ability to assess and manage the impact of new technologies on your enterprise—including the biggest factors that can contribute to unexpected breakdown or performance limitations—can help you optimize your networks at every stage and drive positive internal and external digital experiences.
6 things that can derail your network

New network-straining technologies and business realities are growing daily. Recognizing them is the first step in avoiding guesswork and intelligently managing their impact.

1. **The rise of cloud and Everything as a Service (XaaS)**
   Whether it's storage, computing, software applications, networking, infrastructure, platforms or security, network-delivered services are growing fast. Between 2018 and 2022, we project that the market size and growth of the public cloud services industry will be 80% worldwide. According to Gartner, “Adoption of next-generation solutions are almost always ‘cloud-enhanced’ solutions, meaning they build on the strengths of a cloud platform to deliver digital business capabilities.”

2. **Shadow IT and the world of unauthorized apps**
   Today, anyone with a credit card can easily start using a cloud-based application without IT’s knowledge or approval. In a recent audit by our Professional Services team, one company discovered its enterprise network was supporting fourteen applications vs. the four it had been aware of due to hidden spending by rogue users and departments. The exploding growth of SaaS and the Internet of Things (IoT) are forecast to fuel under-the-radar use of IT equipment, services and software, further straining enterprise networks. Soon, you may find yourself struggling to keep up with the apps and services you know about—and blind to those you don’t.

3. **Unanticipated and seasonal demand surges**
   You’ve probably heard how millions of text message votes for *American Idol* unexpectedly overwhelmed AT&T’s network. Or how major retailers like Target and even PayPal suffered Black Friday/Cyber Monday outages, and other similar tales. The short but vital moral: even if you know a tsunami is approaching, it may be too little, too late. Whether they’re expected seasonal crests or mundane surprises (too many employees streaming a major weekday sporting event, for example), sudden surges in traffic can quickly swamp and sink your network if you’re not ready.

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**76%**

growth in SaaS revenues from 2018 to 2022 Worldwide, within the Public Cloud Service market¹

**27%**

of the apps being used were classified as “high-risk” Shadow IT²

**230%**

jump in total payment volume on Cyber Monday for subscription-based merchants³
6 things that can derail your network (continued)

**4**

**Big data and analytics**
Sure, “big data” may be overhyped. But the continued boom in analytics apps and services should convince you: huge new data sets are coming soon to a network near you, especially if you work in financial services, manufacturing or healthcare. The traffic they create travels heavily in both directions. Many transactions start on premises, get pushed to cloud-based analytics then return home with even more data in tow. The usual result: network delays and greater latency.

**5**

**The Internet of Things (IoT)**
Though the IoT is still in its infancy, the networks that will be supporting physical objects that can “chatter” via embedded technology are the ones we all use now. And all that remote control, monitoring and sensing traffic from billions of new devices is about to get much heavier. IDC projects the number of IoT devices to reach 41.6 billion by 2025 with the amount of data created by these devices to increase at an annual growth rate (CAGR) of 28.7% for the 2018-2025 period. Manufacturing (factory automation, robotics), healthcare (advanced devices) and retail (POS) are leading the way, followed by utilities (distribution and transmission), transportation (safety and integrity monitoring) and agriculture (increased yield). And the IoT is working its way into everything else as well. Besides the huge new network burden, there’s the threat of “ghost” devices—products with built-in IoT capability that suddenly create more, unexpected traffic when activated.

**6**

**New and fast-growing bandwidth-hungry apps**
A host of other new or rapidly growing technologies are creating added network stress, including VoIP, hosted contact centers/Contact Center as a Service (CCaaS), video training and surveillance, digital signage, gamification, AI and both augmented and virtual reality. And more will come. Coupled with the non-stop growth of enterprise WiFi to support continued mobile device mania and tech-hungry millennials swamping the workforce, you’re facing a perfect storm of network strain.

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20% of traffic within a data center will be from big data by 2021.

41.6B IoT devices will be generating 79.4 zettabytes of data in 2025.

15x Smart device traffic generates 15x more traffic and will account for 99% of mobile traffic by 2022.
Time to sharpen your predictive powers

If you think it’s tough now to ensure your enterprise network is ready for new technology, just wait. Things are about to get harder thanks to fast-growing, new bandwidth-busting tools and technologies.

Whether your application environment is primarily private or cloud-based—or a hybrid of both—your ability to handle new technologies and growth depends on your ability to:

1. Gain an accurate, real-time understanding of your network traffic.
2. Prioritize applications, users and locations most critical to business while optimizing performance for everyone.
3. Anticipate and make changes proactively.

Your network provider is your ally

With the right mix of experience and solutions, a strong network provider can help you make the leap to next-generation solutions.

Go hybrid

Take control by moving to a hybrid WAN, which can help you improve cost efficiency and security by deploying a mix of MPLS and IPSec VPNs. **Hybrid WANs** also offer an excellent evolutionary migration path to a new software-defined WAN (SD-WAN) infrastructure, which represents a true long-term solution to continuous bandwidth management in an increasingly cloud-connected world.

Optimize your way to the cloud

Moving applications from the data center to the cloud changes the application path. It doesn’t, however, change the need for performance, reliability and security. Used in conjunction with MPLS, a **cloud exchange service** enables you to address that change by connecting your locations directly to leading cloud vendors, providing privacy and security while optimizing cloud application connectivity.

Make the move to SD-WAN

Leveraging multiple connections as you find in hybrid WANs, **SD-WAN** adds a layer of intelligence, providing real-time visibility into—and control over—network and application performance. The resulting improvements in reliability and performance are unprecedented: a 100% **SD-WAN service availability SLA**, a significant improvement in user experience and up to 100x the bandwidth at a similar or lower cost than a standard T1.5

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5 This is an illustrative example. Actual performance may vary.
Want growth? Strengthen the backbone of your network.

New applications, trends and technologies are game changers for everyone charged with enabling smooth, “anytime, anywhere” customer experiences and driving business growth. But the right technology and approach can minimize guesswork regarding your network’s readiness to safely onboard these new applications and workloads.

The key is deploying network optimization and prioritization technologies that enhance network visibility and control and enable you to optimize your networks to achieve peak application performance.

Understanding and establishing traffic and application usage policies can help you gain the flexibility needed to stay ahead of evolving needs, eliminate bandwidth bottlenecks, serve diverse locations securely, balance cloud and private network resources and meet escalating customer expectations—whatever they may be.