

OUTSIDE HQ: MEETING THE BANDWIDTH CHALLENGE

The need to be close to customers, partners, and suppliers often presents businesses with a conundrum: efficiently and cost-effectively providing network services over a spider web of satellite, remote, or branch offices. Many, according to a recent survey, are turning to software-defined networking (SDN) technologies as they increasingly support bandwidth-intensive applications aimed at optimizing the employee experience.

IDG Research Services surveyed 100 IT decision-makers (ITDMs) across a broad array of industry segments and found wide support for bandwidth-intensive employee activities in locations outside of headquarters. Mobile productivity applications are supported by 79%, video streaming by 78%, and audio streaming by 63%. Social media, however, is supported by a much lower 37%.

Most are looking to enhance remote IT support, with 71% saying they are pursuing this option to better meet the needs of locations away from headquarters. More than 40% are even locating IT resources in or closer to those nonheadquarters locations, a relatively expensive undertaking that underscores the level of importance enterprises are placing on supporting nonheadquarters locations.

Balancing bandwidth supply and demand

The ubiquitous availability of relatively low-cost bandwidth is providing businesses with a lifeline to support the growing needs of employees across the distributed enterprise, with 74% of the survey respondents indicating that their top strategy is to upgrade bandwidth.

Simply cranking up bandwidth will not alleviate all the pressing needs of the distributed enterprise, though. With business revenues increasingly tied to network services, any outage can have a significant impact on profitability, customer satisfaction, and employee performance.

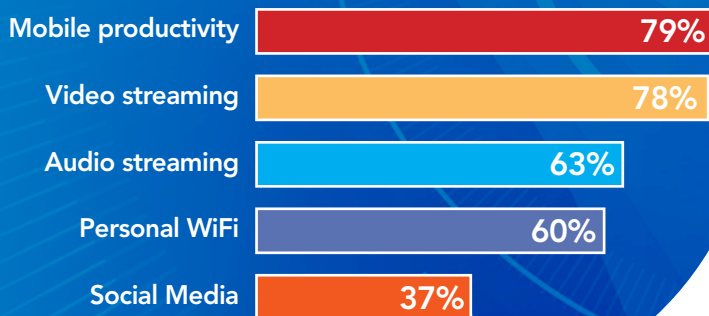
Half of those surveyed indicated they are addressing employee and operational excellence by deploying SDN technologies, such as carrier-provided SDN services; software-defined wide area networks (SD-WANs); and network functions virtualization (NFV). SDN, SD-WAN, and NFV can be instrumental in keeping everyone online via intelligent routing that can bypass outages and slowdowns.

Many companies have relied on multiprotocol label switching (MPLS) carrier-based services or dedicated appliances to provide virtual private network (VPN) connections to outlying offices. But these can be costly and time-consuming to provision, scale, or repurpose. They also generally don't provide businesses with timely visibility into network slowdowns or the impact of particular applications.

"Typically in the past, customers would have a single connection to their branch offices, but SD-WAN enables companies to aggregate multiple types of network connections into a branch office and have a software management platform that

Mobile Productivity and Video Streaming Top the List

What bandwidth-intensive activities are you supporting at branch/remote office locations?



SOURCE: IDG RESEARCH SERVICES, APRIL, 2018

enables high availability and can automatically prioritize traffic," **observes Brandon Butler**, a senior editor with Network World.

Balancing operational and employee needs

Accessibility to data is what largely defines its value. With businesses increasingly willing to provide, if not dependent on, greater workforce access to data and applications, business growth will likely go hand in hand with the ability to effectively manage those applications and the level of bandwidth available to each nonheadquarters location.

Data continues to grow by leaps and bounds, with **market research firm IDC estimating** that the annual volume of data generated will grow from 16.1 zettabytes in 2016 to 163 zettabytes by 2025. Some of that data is stored in traditional core data centers, but much is now hosted in the cloud or in devices at the edge of networks. Reliance on traditional centralized bandwidth provisioning practices will exacerbate the challenge of responding to opportunities and challenges quickly and effectively.

In the IDG survey, 42% of those surveyed indicated that they are deploying self-provisioning capabilities as they take advantage of new networking technologies to meet today's digital challenges.

Optimizing the distributed workforce

A substantial majority of businesses (63%) said they are seeking input from employees as they endeavor to ensure operational excellence while supporting an excellent remote employee experience. But decision-making regarding networking technology is still very much centralized, with 63% also deeming it to be the responsibility of IT at headquarters and an additional 15% indicating that it rests with line-of-business (LOB) leaders at headquarters or top executives such as the CEO and the CFO.

74%

are upgrading bandwidth to ensure operational excellence at branch/remote locations

"Businesses are struggling with the complexity of how to balance the needs in the field with the reality that they need to maintain policy from a corporate perspective," says Allan Langfield, executive director of product management at Comcast Business. "One complication is that although there are many individual vendors offering SD-WAN point solutions, they often are not designed for implementation across large numbers of sites."

That type of scenario often requires hands-on installation and configuration. That, according to Langfield, defeats the purpose of software-driven networking. "We're trying to help customers move away from having to find local staff that can go out and touch these appliances and physically take care of things on-site," he adds. "They need a 'single pane of glass' management view from which they can see what is happening in the network, whether that's from the perspective of people needing to access their own branch location or from headquarters where they need to access the entire network."

Dynamically driven networking

The Comcast Business ActiveCoreSM SDN platform provides businesses with the advantages of a carrier-grade platform paired with access to a widely available gigabit-speed broadband network to better meet the needs of centralized operations as well as the distributed enterprise.

ActiveCore makes it possible for Comcast to provision virtual network functions (VNFs) rather than deploy multiple complex, single-purpose devices. Comcast Business SD-WAN, the first VNF available with ActiveCore, provides centralized, integrated management of network functions such as IP VPN, routing, and firewall, each of which have typically required separate appliances in remote offices.

With gigabit-speed broadband connections from Comcast Business, SD-WAN can help overcome the bandwidth, scalability, and cost concerns common with legacy T1-based MPLS networks and provide enriched network visibility—with application-level insights—and dynamic traffic routing to better optimize application performance.

ActiveCore and Comcast Business SD-WAN provide a holistic, vendor-neutral, carrier-based environment in which customers can select from approved third-party suppliers of virtualized routers, VPNs, and firewalls.

For more information on Comcast's innovative approach to satellite, remote, and branch offices network solutions, go to business.comcast.com/distributed-enterprise.