

ANYTHING-AS-A-SERVICE IS THE REALITY

An SD-WAN plays a critical role in addressing bandwidth, scalability, and cost concerns that have arisen with XaaS models.

You know that the computing world has undergone a seismic shift when Microsoft provides the Windows operating system as an “**as-a-service licensing model.**” No, it’s not yet a true cloud-based operating system, but it’s a giant leap toward the Anything-as-a-Service (XaaS) future.

In fact, a recent survey illustrates how quickly organizations are adopting XaaS models. But the shift fundamentally disrupts long-standing best practices for networking and presents IT with a new rule book that is being written and revised on the fly.

The Move to the Cloud

Organizations are rapidly migrating more and more IT functions to the cloud and are beginning to tool up for a cloud-native application environment. “Research shows

64% of senior executives surveyed believe XaaS providers will deliver new capabilities faster than a traditional IT organization,” **writes Diana Bersohn**, a managing director in Accenture Strategy – Technology. “By using XaaS models, internal teams become more agile and can make decisions faster, quickly pivoting to pursue new innovations.”

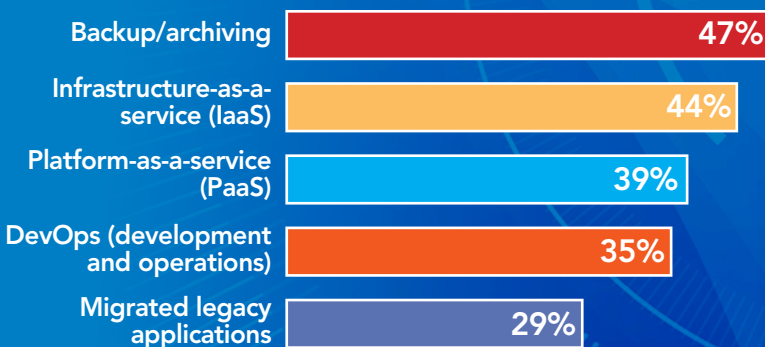
Some go as far as to say it’s not just anything but, rather, *everything* that should evolve to this model. Everything-as-a-service is a strategic and operational blueprint that, within the next 18 to 24 months, will likely begin upending business and operational models and redefining the fundamental goals of core modernization, a group of **Deloitte analysts predicts.**

A recent IDG Research survey indicates that some organizations are rapidly ascending the XaaS ladder. Not surprisingly, almost two-thirds (64%) of the respondents are using cloud storage and 55% are using software-as-a-service (SaaS). Other cloud services are also coming on strong (*see chart, left*).

In addition, 28% indicated that they are already using cloud-native application development and deployment, a strong indication that these organi-

Cloud Services

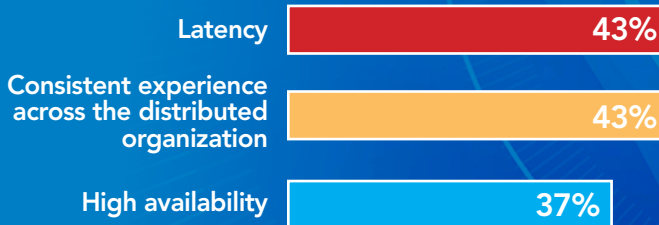
How is your organization using cloud computing?



SOURCE: IDG RESEARCH SERVICES, JULY 2017

Cloud Concerns

What concerns or issues do you have with cloud computing use?



SOURCE: IDG RESEARCH SERVICES, JULY 2017

zations are already at an XaaS stage (for at least part of their IT asset base).

“Cloud-native applications, built to excel in the cloud, are driving a transformative shift in digital business,”

Capgemini asserts. Cloud-native leaders, according to the consulting firm, “are building more than 20% of their applications in the cloud, driven by the need to improve velocity, collaboration, and customer experience.”

The XaaS movement reflects further evolution away from the monolithic legacy applications that have dominated the enterprise market for decades. Instead, organizations want to leverage independent microservices that interact with other microservices; this creates new capabilities that thrive on scalable cloud platforms.

XaaS Advances Come with Disruptions

XaaS is not only a new way of doing computing but also requires a new way of thinking, particularly about enterprise networking. Although organizations have made dramatic networking advances over the past two decades, those advances are based primarily on fixed points of communication. Now, almost anything can be located almost anywhere, a development that completely disrupts traditional command and control of centralized IT, in some cases shifting great responsibility to service providers.

The IDG Research poll reveals that 59% of the participating IT decision-makers are concerned about

quality-of-service issues and 59% are worried about controlling and monitoring access to cloud functions. Others have additional concerns (*see chart, left*).

Underlying these concerns, of course, is the need to provide performance and reliability that at minimum matches—and ultimately far exceeds—what the business and individual users are accustomed to with legacy applications and desktop computers. But the environment is changing so rapidly that IT departments may have difficulty adjusting.

“Windows as a service” illustrates the issue. As **Kurt Mackie** writes in *Redmond Channel Partner*, “Windows 10 users get feature changes to the operating system faster, but this faster release pace potentially can conflict with the stability concerns of organizations as they try to maintain complex computing environments.”

Veteran technology writer **Ed Bott** observes, “For those who are simply using Windows for day-to-day-business, the changes can appear unexpectedly. And the realization that tried-and-true workflows no longer apply isn’t sitting well with some IT pros.”

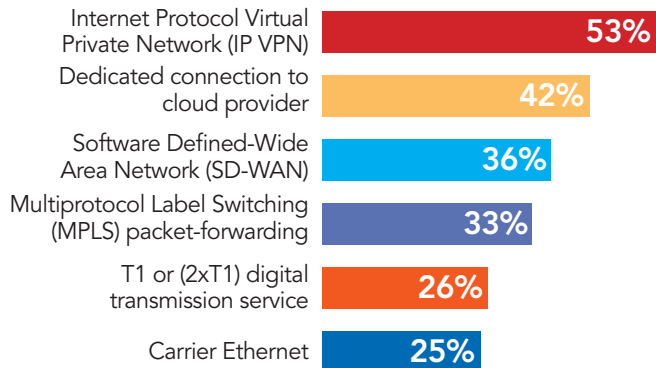
After years of managing relatively stable environments, IT is now charged with cloud services that can scale up or down on demand and cloud architectures that can span public cloud services, private clouds, and hybrids of both. Furthermore, many businesses are using multiple cloud providers for different workload requirements. The result: a dynamic, constantly swirling environment in which IT is nonetheless expected to deliver optimum availability, improved performance, and enhanced user experiences.

Maximizing Connectivity

Organizations are using a variety of communications technologies to ensure cloud connectivity, but it’s clear that a fundamental shift is under way as they attempt to adapt enterprise networks to enable XaaS delivery. With the cloud at the heart of XaaS, connectivity can be the sticking point. No matter which cloud model you implement, success and satisfaction are going to be dependent on the quality and reliability of the network connection.

Cloud Connectivity

What forms of communications access are you using to ensure cloud connectivity?



SOURCE: IDG RESEARCH SERVICES, JULY 2017

The IDG Research survey reveals that just 33% of the respondents utilize Multiprotocol Label Switching (MPLS) services, a level that has been flat for several years. MPLS services accommodate IP, frame relay, and ATM network protocols; they are generally used to create private network connections over public networks controlled by providers that can offer class-of-service (CoS) prioritization and quality-of-service (QoS) guarantees for different types of traffic.

The predominant form of cloud connectivity, though, is IP VPN (used by 53% of the survey respondents), which uses the public Internet, often in combination with MPLS switches, to create private network connections that are less costly than MPLS alone but also lack the CoS and QoS controls.

Many companies first tied into cloud services over the public Internet. But the lack of QoS and CoS capabilities via the public Internet hinders applications that require consistent performance and high availability. As a result, 42% of the respondents said they are using direct connections provisioned by carriers to cloud service providers.

One eye-opening revelation in the IDG Research survey: 36% of the respondents are utilizing nascent software-defined wide area networking (SD-WAN) technology. SD-WAN applies software-defined networking (SDN) technology to create wide area networks (WANs) driven by software

rather than hardware—these are more cloud-friendly than traditional WANs. SD-WAN provides enriched network visibility, with application-level insights plus dynamic traffic routing to better optimize application performance.

“Much of the value proposition of SD-WAN has revolved around cost savings on bandwidth as businesses look to cut the high cost of running a wide area network today,” writes **Zeus Kerravala**, founder of and principal analyst with ZK Research.

But Kerravala points out that SD-WAN is about much more than cost savings. It enables centralized configuration, zero-touch provisioning, network orchestration, and direct cloud connectivity. Furthermore, **SDxCentral** observes, “SD-WAN as a Service can be appealing to end users and enterprises that don’t want to manage the WAN, or applications, and would prefer to outsource these services to a service provider.”

Harnessing the Tornado

The cloud isn’t just a new layer of technology but has increasingly become the core of computing strategy. As such, it is bringing a whirlwind of good, bad, and uncertain impacts. Seeking to assert ironclad control over cloud adoption is futile, but it’s essential to ensure manageability and accountability.

“By getting too excited with all the new services available, companies will find that Anything-as-a-Service becomes Anything-as-a-Mess,” writes **Daniel Newman**, principal analyst of Futurum Research. “A solid vision, tech strategy, and customer engagement plan should always accompany an XaaS trial or subscription—there is no substitute or replacement for good old-fashioned common sense and compatibility.”

42%

say they have a dedicated connection to their cloud providers

Diginomica's **Phil Wainwright** offers practical advice to CXO executives for surviving the "as a service" revolution: "It's important for the C-suite to make the right choices as they guide their business into the future," he writes. "But when the world is changing so fast, it's easy to misjudge the direction and pace of that change. Often, one part of the picture can look like the whole story, but still miss crucial elements."

Furthermore, Wainwright cautions, "When tech is the enabler, it's tempting to imagine that once the technology is in place, the job is done. But that's just the starting point. The technology fuels new engagement models, delivery models and business models, but these won't crystallize unless the people and the organization are ready to deliver them."

Jeff Lewis, vice president of product management for Comcast Business, counters that SD-WAN doesn't have to be an all-or-nothing proposition. "Easing into the many proven benefits of SD-WAN—such as reduced total cost of

ownership (TCO), flexible bandwidth options, and unprecedented simplicity of networks and applications—can be a gradual process without sacrificing existing investments in traditional networking infrastructure," he says.

But, Lewis notes, organizations shouldn't view using SD-WAN simply as an easy way to add bandwidth to existing MPLS infrastructure. "SD-WAN should never be 'one and done'; otherwise, why do it?" he says. "Networking decision-makers should think of SD-WAN as part of a broader software-defined network platform infrastructure. Businesses that have incorporated SD-WAN into their network strategies are finding that it is a viable and cost-effective solution to meet the escalating connectivity demands of increased branch dispersion and growing dependence on cloud-based applications."

The Bottom Line

As organizations strive to fulfill XaaS aspirations, SD-WAN represents the architecture needed to do more with your network. Paired with gigabit-speed broadband connections, SD-WAN can help overcome the bandwidth, scalability, and cost concerns common with legacy T1-based MPLS networks. With SD-WAN, application-aware routing protocols enable your network to adjust to demands of network traffic. With the ability to push policies to branch locations and launch new sites remotely from a central location, the costs and time delays of deploying and provisioning new network services are reduced and simplified.

Comcast Business SD-WAN is built on the carrier-grade ActiveCoreSM platform. Pairing this new SDN approach with how networks are designed and built with industry-leading broadband service, last-mile performance, and Gig capabilities, Comcast Business SD-WAN enables distributed enterprises to benefit from scale, cost efficiencies, and built-in network reliability. SD-WAN adds a control layer on top of an organization's network infrastructure to centralize policy management of critical network functions and eliminate the need for multiple complex, single-purpose devices.

For more information on turning your network into an asset—not a burden—visit business.comcast.com/sdn.

BEST PRACTICES FOR SD-WAN ADOPTION

If you're hesitant about SD-WAN, try some of these methods to get started:

- Implement SD-WAN incrementally to augment your legacy network or to provide redundancy.
- Introduce a limited SD-WAN implementation that is dedicated specifically to a new application or service, or use it with an existing application to compare its performance with that of your current MPLS network.
- Initiate a pilot program to connect to one or two branch offices.
- As aging routers depreciate or reach the end of a contract, replace them with SD-WAN on a step-by-step basis.
- Test-drive an SD-WAN, avoiding any up-front capital investments.