

## ESG SHOWCASE

# SD-WAN: A Solid Foundation for SASE

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**ABSTRACT:** The distributed nature of modern IT environments requires organizations to rethink traditional network and security architectures. Organizations have rapidly adopted SD-WAN technologies to provide direct internet access for employees and leverage cost-effective broadband connections. This technology also provides a solid starting point to deliver an enhanced security posture. Given the widespread adoption of SD-WAN, it is the perfect starting point to enable a secure access service edge (SASE). Organizations need to ensure the SD-WAN choices made today will create a seamless path to a strong SASE deployment in the future.

## The Adoption of SD-WAN Provides a Foundation for Security

SD-WAN has seen substantial adoption, as firms find that a modern digital environment needs an agile, performant, and ubiquitous network. The static nature of legacy IT environments has been replaced with a high degree of dynamism, demanding that all three major components of digital infrastructure (compute, storage, and network) respond to this change. As such, the internal demands are rapidly changing.

However, there are external drivers too. The need to respond to rapidly changing customer and market demands is driving organizations to modernize their application architectures, distribute applications, and embrace hybrid work environments. Distributed clouds, which have applications deployed in on-premises data centers, multiple public clouds, and edge locations are rapidly becoming the norm. ESG research validates these shifts to the cloud and edge, with 97% of respondents citing public cloud use of varying degrees (see Figure 1)<sup>1</sup> and 95% stating that they are deploying two or more applications at edge environments (see Figure 2).<sup>2</sup>

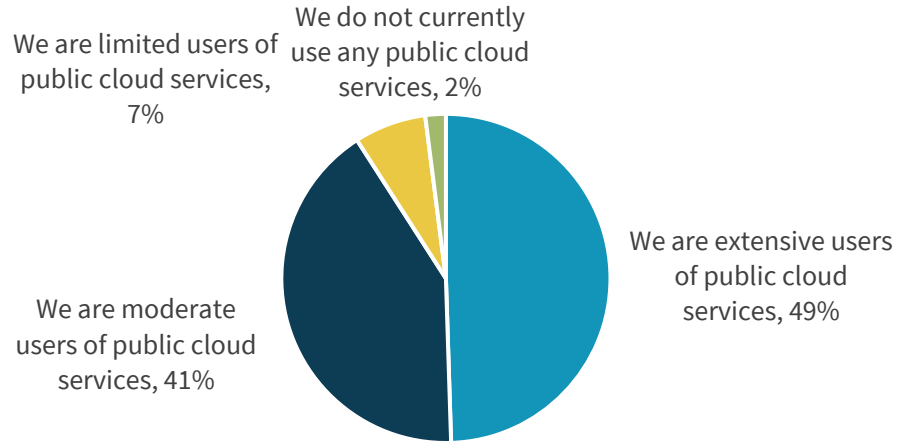
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<sup>1</sup> Source: ESG Research Report, [SASE Trends](#), December 2021.

<sup>2</sup> Source: ESG Research Survey, *Distributed Cloud Series: Digital Ecosystems Trends*, March 2022.

**Figure 1. Public Cloud Adoption**

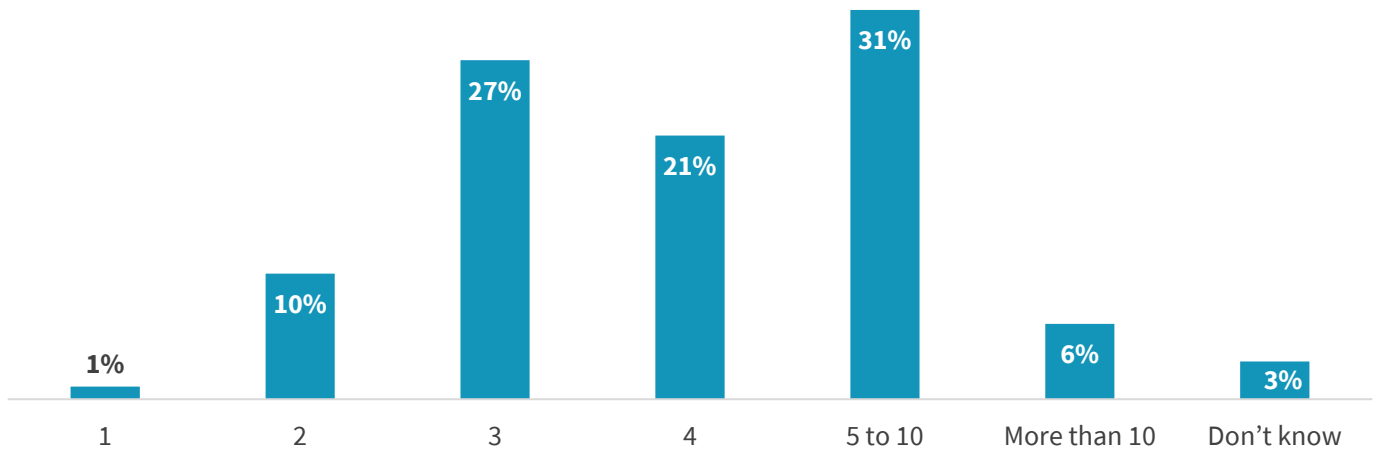
How would you describe your organization’s current usage of any type of public cloud computing service (whether SaaS or IaaS) for business-critical applications? (Percent of respondents, N=613)



Source: ESG, a division of TechTarget, Inc.

**Figure 2. Edge Application Deployments**

On average, approximately how many edge applications/workloads (inclusive of virtualized services) are deployed at each of your organization’s edge computing location? (Percent of respondents, N=372)



Source: ESG, a division of TechTarget, Inc.

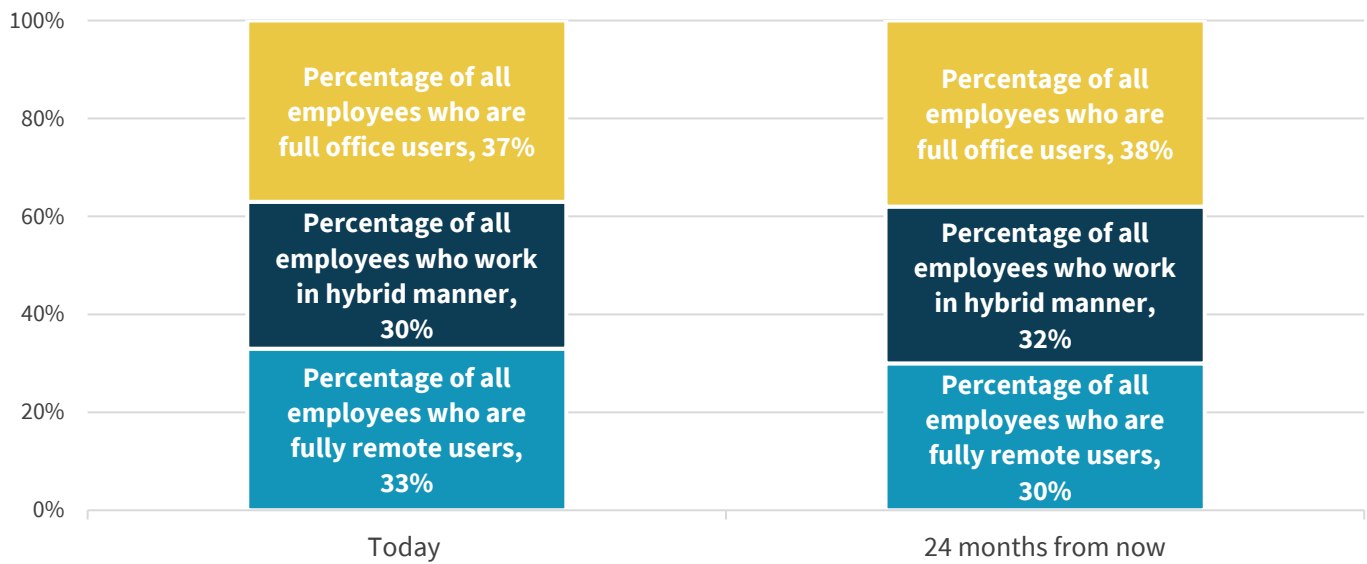
Plus, organizations are dealing with a highly distributed workforce and this situation is expected to continue into the foreseeable future (see Figure 3).<sup>3</sup> This change has created new and very different demands on the network. When it is

<sup>3</sup> Source: ESG Research Report, [SASE Trends](#), December 2021.

combined with the increasing level of online customer interactions, it becomes clear that there is now a new demand for network resources that can be redeployed or used in different ways at a moment’s notice. And of course, all these connections must remain secure.

**Figure 3. Hybrid Work Plans**

**To the best of your knowledge, what is the current breakdown of how your employees work and what do you expect that percentage to be in 24 months, under the assumption that all COVID-related work-from-home government mandates are lifted?  
(Mean, N=613)**



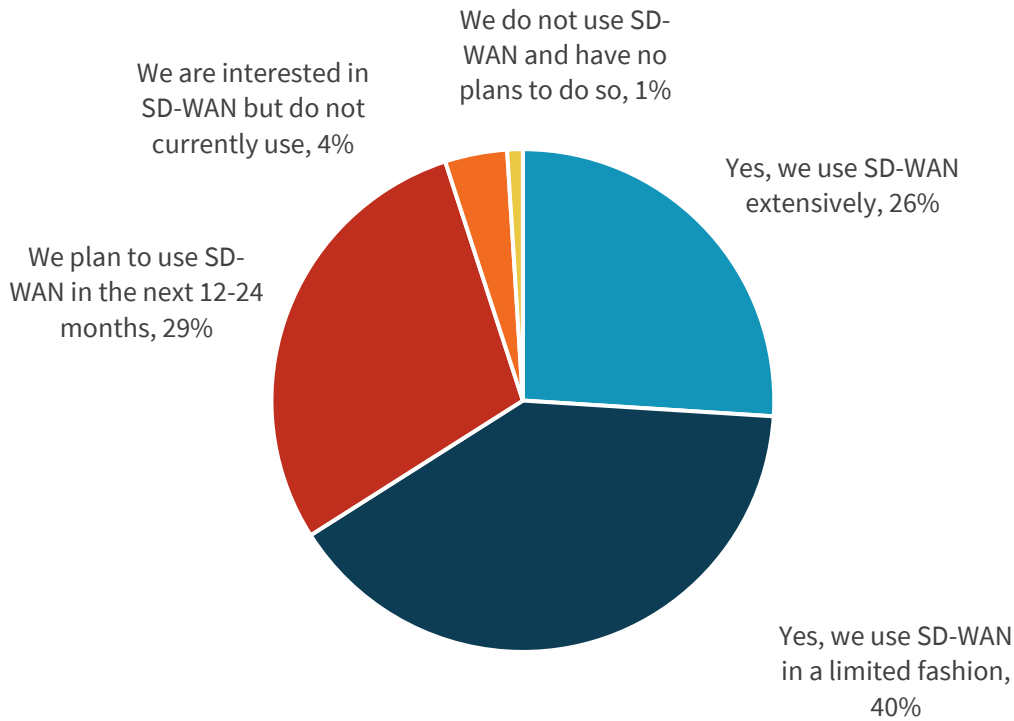
*Source: ESG, a division of TechTarget, Inc.*

As a result of these trends, organizations are deploying SD-WAN technology, with 95% of the respondents stating that they have or are planning to leverage SD-WAN (see Figure 4).<sup>4</sup> This data makes it fair to say that SD-WAN is effectively ubiquitous and that firms that are behind on this trend are at a significant competitive disadvantage.

<sup>4</sup> Source: ESG Research Report, [Network Modernization in Highly Distributed Environments](#), November 2021.

**Figure 4. SD-WAN Adoption**

**Does your organization use SD-WAN technology for WAN connections? (Percent of respondents, N=338)**

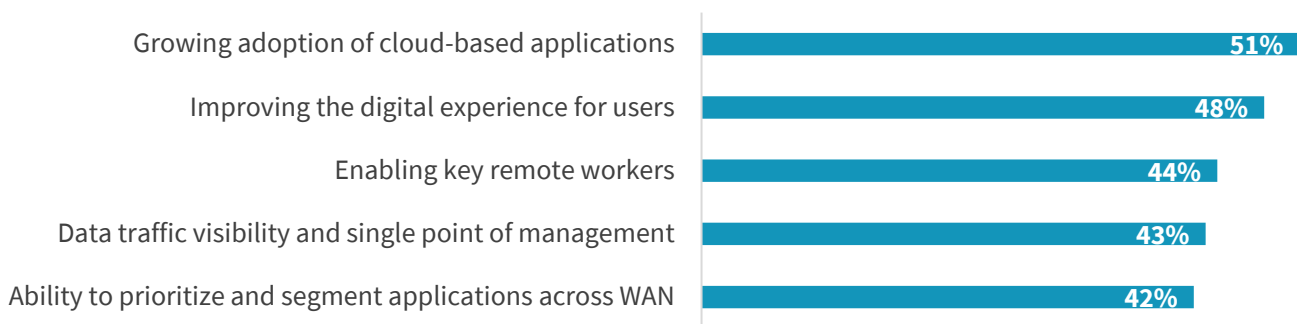


Source: ESG, a division of TechTarget, Inc.

The benefits of SD-WAN are compelling. The top five drivers for adopting SD-WAN are the growing adoption of cloud-based applications, the need to improve digital experiences for users, the ability to enable key remote workers, the need to gain visibility and central management, and the ability to prioritize applications across the WAN.<sup>5</sup> The three most common drivers of SD-WAN adoption correspond closely with mega-trends that drive overall business strategy.

**Figure 5. Top Five Drivers of SD-WAN Adoption**

**What are, or will be, the drivers for your organization to deploy SD-WAN? (Percent of respondents, N=454, multiple responses accepted)**



Source: ESG, a division of TechTarget, Inc.

<sup>5</sup> Source: ESG Complete Survey Results, [2021 SASE Trends: Plans Coalesce But Convergence Will Be Phased](#), December 2021.

SD-WAN technology has proved extremely valuable in connecting users directly to applications wherever they are located and has even provided a level of segmentation to better secure applications. However, these highly distributed environments create a larger attack surface and require new security architectures. Now that SD-WANs are or are about to be deployed, it is essential that a strong security framework accompany them.

## SD-WAN Is a Foundation for SASE

Because of its rapid adoption to facilitate connections to distributed applications and users, SD-WAN technology is also a great foundation for secure access service edge, or SASE. The SD-WAN platform provides a consistent and comprehensive platform that can be used as a foundation for SASE. SD-WAN provides the networking functionality that a modern business needs, and SASE adds to that by converging SD-WAN with security and network services that provide a complete connectivity and security fabric for the entire organization.

A SASE framework comprises both network functions (SD-WAN, WAN Ops, NaaS) and security functions (NGFW, ZTNA, DLP, CASB, etc.), where the security functions are cloud-based. It should be noted, however, that unlike SD-WAN, SASE is still in its early phases of adoption, with a little over one-third of respondents (37%) starting implementation and 55% in planning stages (see Figure 6).<sup>6</sup>

### What is SASE?

A secure access service edge (SASE) is a technology used to deliver wide area network and security controls as a cloud computing service directly to the source of connection rather than a data center. Security is based on digital identity, real-time context, and company and regulatory compliance policies.

**Figure 6. State of SASE Adoption**



Source: ESG, a division of TechTarget, Inc.

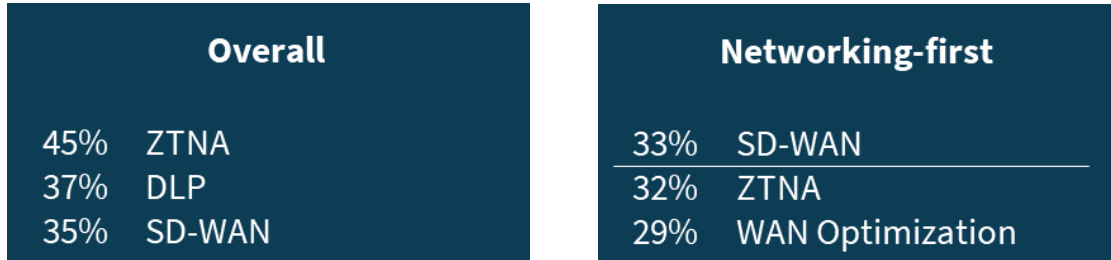
ESG research delivered some interesting results that highlight the alignment of SD-WAN and SASE. When respondents were asked how their organization has prioritized or will prioritize SASE tools as it builds out its SASE environment, SD-WAN was the third most commonly cited response, behind zero trust network access (ZTNA) and data loss prevention (DLP).<sup>7</sup> However, when the question was changed to focus on those taking a networking-first approach to SASE, SD-WAN moved

<sup>6</sup> Source: ESG Research Report, [SASE Trends](#), December 2021.

<sup>7</sup> Ibid.

into the No. 1 spot. The concept of networking-first is the adoption of the SASE framework driven by the network team, and why SD-WAN is so prevalent.

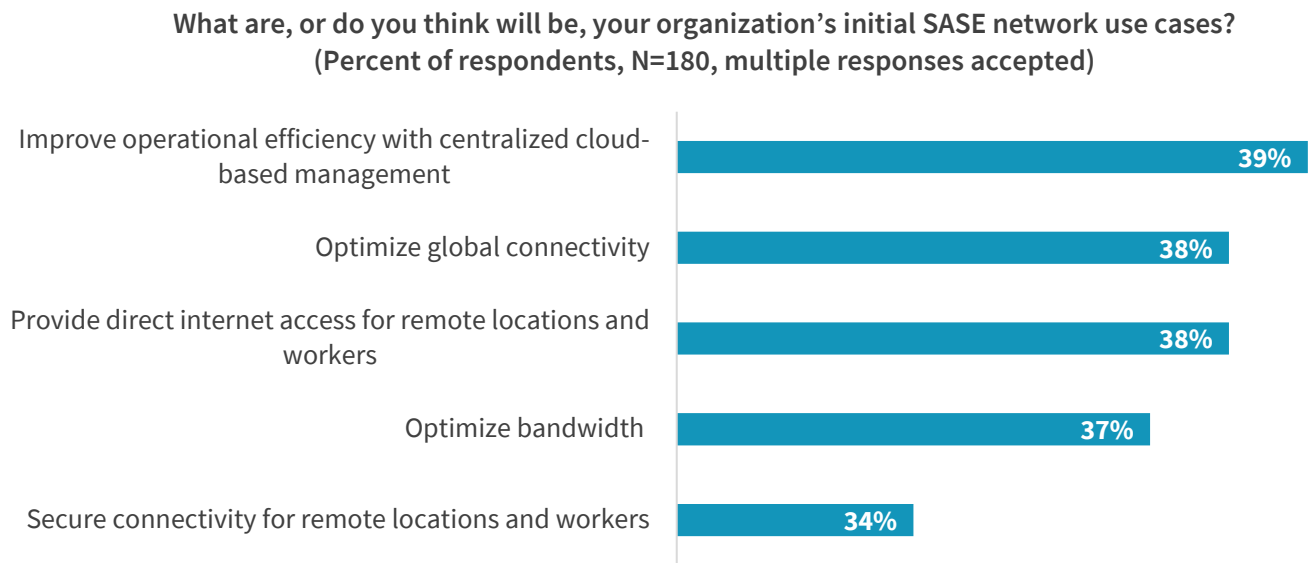
**Figure 7. SD-WAN Adoption – Overall and Networking-first Approach**



Source: ESG, a division of TechTarget, Inc.

This data aligns well with the initial use cases for taking a networking-first approach to SASE, which include improving operational efficiency with centralized cloud-based management, optimizing global connectivity, providing direct internet access for remote locations and workers, optimizing bandwidth, and securely connecting remote locations and workers (see Figure 8).<sup>8</sup>

**Figure 8. Top Five Initial Use Cases for a Network-first Approach to SASE**



Source: ESG, a division of TechTarget, Inc.

While the SASE framework is focused on cloud-based functionality, it is clear that many organizations will take a more pragmatic, hybrid approach, leveraging existing on-premises security tools and migrating to cloud when appropriate. That is where SD-WAN can also help. Organizations want to minimize their hardware footprint in remote locations, and SD-WAN appliances can be a good choice to consolidate additional functionality such as a next-gen firewall or other software.

<sup>8</sup> Ibid.

## What to Look for In an SD-WAN Solution to Enable SASE

SD-WAN solutions have been deployed for a number of years, and the technology continues to evolve. While valuable in its own right, SD-WAN technology can provide an excellent foundation for SASE solutions.

The combination of versatile on-premises hardware and an ecosystem of security partnerships or integrated security solutions ensures organizations have the ability to adopt a hybrid SASE mode and then migrate to cloud-based security functions in their own timeframe. There are a number of specific things that customers should consider when choosing SD-WAN for SASE adoption. These include:

- **Flexible hardware solution:** Think about SD-WAN hardware as universal customer premises equipment that can be deployed once but used to host multiple different functions. This is especially true for SASE. While officially considered a cloud-based framework, the reality is that organizations will adopt a hybrid approach to start, leveraging existing on-premises solutions as well as cloud-based solutions depending on the environment. Therefore, any SD-WAN solution should leverage industry-standard Intel hardware capable of supporting additional network or security functions.
- **Cloud-based management tools:** The wide geographic distribution and increasing volume of sites that require secure connectivity mandate that users have access to a cloud-based management console to ensure operational efficiency. Centralized policy creation enables consistent and correct application of network and security policies at all remote sites, and any changes can be easily propagated across the entire environment.
- **An ecosystem of partners:** To ensure a seamless transition from SD-WAN to SASE, it will be imperative for the SD-WAN vendor to have an ecosystem of security partners to choose from to provide organizations the ability to select the SASE vendor or vendors that best fits their environment. The goal is to enable tight integration of the network and security technology that allows the convergence of the network and security teams.
- **Broad and competent professional services:** Many internal teams don't have enough expertise and depth in both SD-WAN and SASE projects. In addition, the one-time nature of the initial design and deployment makes it more likely that a services partner will be used. It is essential that the services partner has the experience, depth of resources, and proven processes that drive a successful outcome. Further, a global services footprint is highly desirable since many projects may span numerous geographies.

## The Bigger Truth

The continued shift to distributed environments is driving the need for secure connectivity that is ubiquitous. Organizations have started fulfilling this need by leveraging existing or new SD-WAN solutions to provide optimized connectivity to these distributed locations and should be leveraging the SD-WAN platform as the foundation for SASE initiatives.

Indeed, SD-WAN is an easy first step toward improving security and experiences to all remote sites. Organizations need to understand that SD-WAN and SASE are not an either/or proposition. However, it is important to adopt an SD-WAN platform that enables the seamless deployment of a SASE framework. SD-WAN should be a facilitator, not a barrier, and it is an easy first step to an organization's SASE journey.

Dell Technologies Virtual Edge Platforms, powered by Intel, combined with leading SD-WAN solutions and security ecosystem partners ensures that organizations can become more operationally efficient, deliver enhanced experiences, and provide a smooth migration to cloud-based security where needed. For more information about the Dell solution, please go to the [Dell website](#).

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