IDC MarketScape

IDC MarketScape: Worldwide SD-WAN Infrastructure 2023 Vendor Assessment

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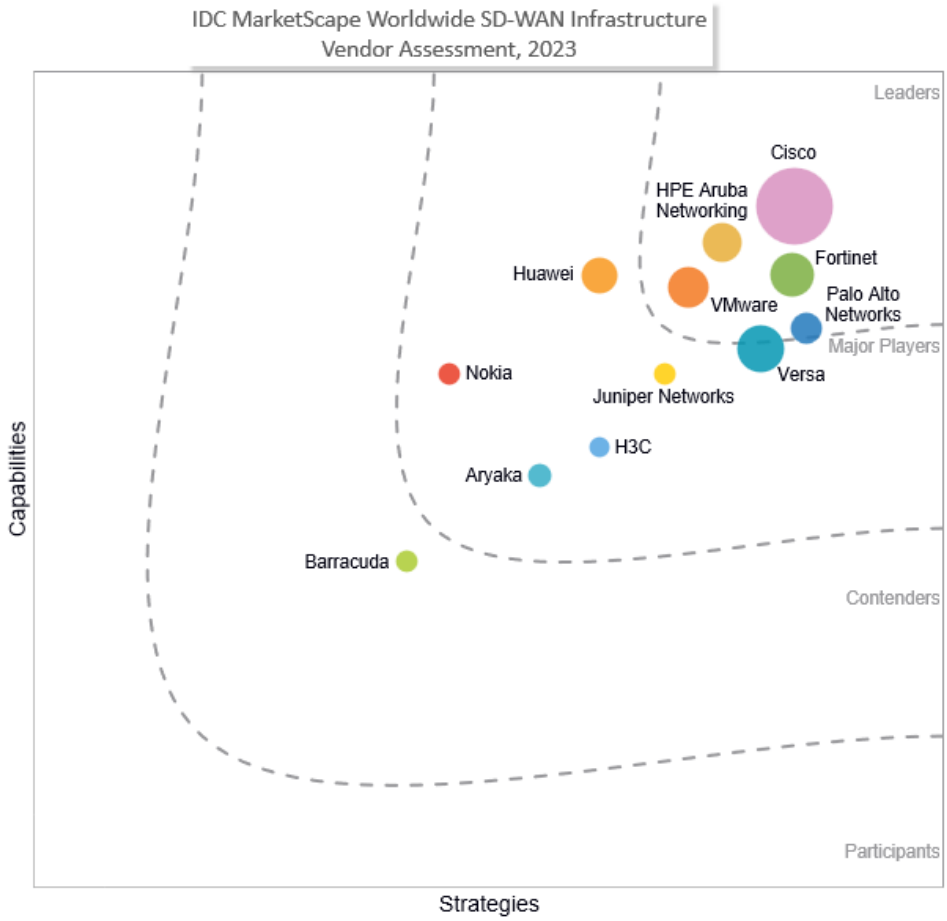
THIS IDC MARKETSCAPE EXCERPT FEATURES PALO ALTO NETWORKS

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide SD-WAN Infrastructure Vendor Assessment



Source: IDC, 2023

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

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IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide SD-WAN Infrastructure 2023 Vendor Assessment (Doc # US50471623). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1 and 2.

IDC OPINION

This IDC study represents a vendor assessment model called the IDC MarketScape, which is a quantitative and qualitative research assessment of vendors' present and future offerings, for the software-defined wide area network (SD-WAN) infrastructure market. This study assesses the capability and business strategy of 12 SD-WAN infrastructure vendors. The evaluation is based on a comprehensive framework and a set of parameters expected to be most conducive to success in providing SD-WAN infrastructure solutions.

The SD-WAN infrastructure market is highly competitive and undergoing important strategic shifts. Key findings include:

- SD-WAN remains an important network infrastructure technology for enterprises due to its ability to improve user and application experiences, provide integrated connectivity and security, and enable seamless connectivity to the cloud and hosted applications, all while optimizing costs.
- Key components of SD-WAN infrastructure include a centralized policy controller, automatic management of hybrid wired and wireless WAN connections, dynamic path selection of application traffic, and optional programmability, security, and analytics of wide area network (WAN) traffic.
- For organizations, SD-WAN enables myriad benefits including, but not limited to, improving reliability by augmenting existing WAN connectivity with redundant failover across dual links, setting application traffic steering via automated software management tools and ensuring that sensitive traffic is prioritized over noncritical traffic, and the ability to provide more direct connections between users and devices and the distributed applications they're accessing.
- In 2022, the SD-WAN infrastructure market grew 25.0%. IDC estimates that through 2027, the market will grow at a compound annual growth rate of 10.1% to reach $7.5 billion.
- The need for intelligent, adaptable, and pervasive connectivity has become a mandatory requirement for businesses to operate and for people, processes, and things to connect with one another. IDC's Future of Connectedness research shows the strategic importance of a wireless-led and cloud-enabled connectivity strategy that removes network and IT silos, automates critical business processes, empowers employees to become more productive, and ensures a continuous digital experience for employees, customers, and partners.

IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

This research includes the analysis of 12 SD-WAN infrastructure vendors spanning IDC's research coverage. This assessment is designed to evaluate the characteristics of each firm across a set of criteria broken into two major buckets: current and future capabilities of the SD-WAN infrastructure and current and future strategy of the SD-WAN infrastructure offering.

IDC used a variety of primary research methods to produce this document including interviews with vendors and customers, a detailed questionnaire all vendors completed, and detailed product briefings from each vendor. This evaluation should not be considered a final judgment of firms to consider for a project, however. An enterprise's specific objectives and requirements will play a significant role in determining which firms should be considered as potential candidates for an engagement.

For inclusion in this IDC MarketScape, vendors had to:

- Demonstrate two years of general worldwide availability of an SD-WAN infrastructure offering.
- Derive at least $30 million per year in SD-WAN infrastructure revenue.
- Have material SD-WAN infrastructure revenue in more than two global regions of the world.

This document also includes a profile of three companies in the Vendors to Watch section. These companies did not meet our criteria for full inclusion in the research but are important SD-WAN infrastructure vendors in the market today.

ADVICE FOR TECHNOLOGY BUYERS

SD-WAN infrastructure is a compelling technology for any organization looking to improve WAN reliability and cost, optimize network performance, and enhance user experiences for applications accessed via the WAN. IDC's 2022 *Global SD-WAN Survey* of existing and prospective SD-WAN users asked respondents how much savings they expect to derive from deploying SD-WAN. The median response rate was 15.0%, but almost one-third of respondents (31.8%) said they expect to save more than 20% on WAN costs from deploying SD-WAN.

Another survey question asked what respondents believe are the most important features of a modern, enterprise-grade SD-WAN platform. Figure 2 shows the responses, with the top answers being integrated security, ability to provide robust network and application performance assurance, and integrated machine learning/artificial intelligence (ML/AI)-enhanced SD-WAN management capabilities.

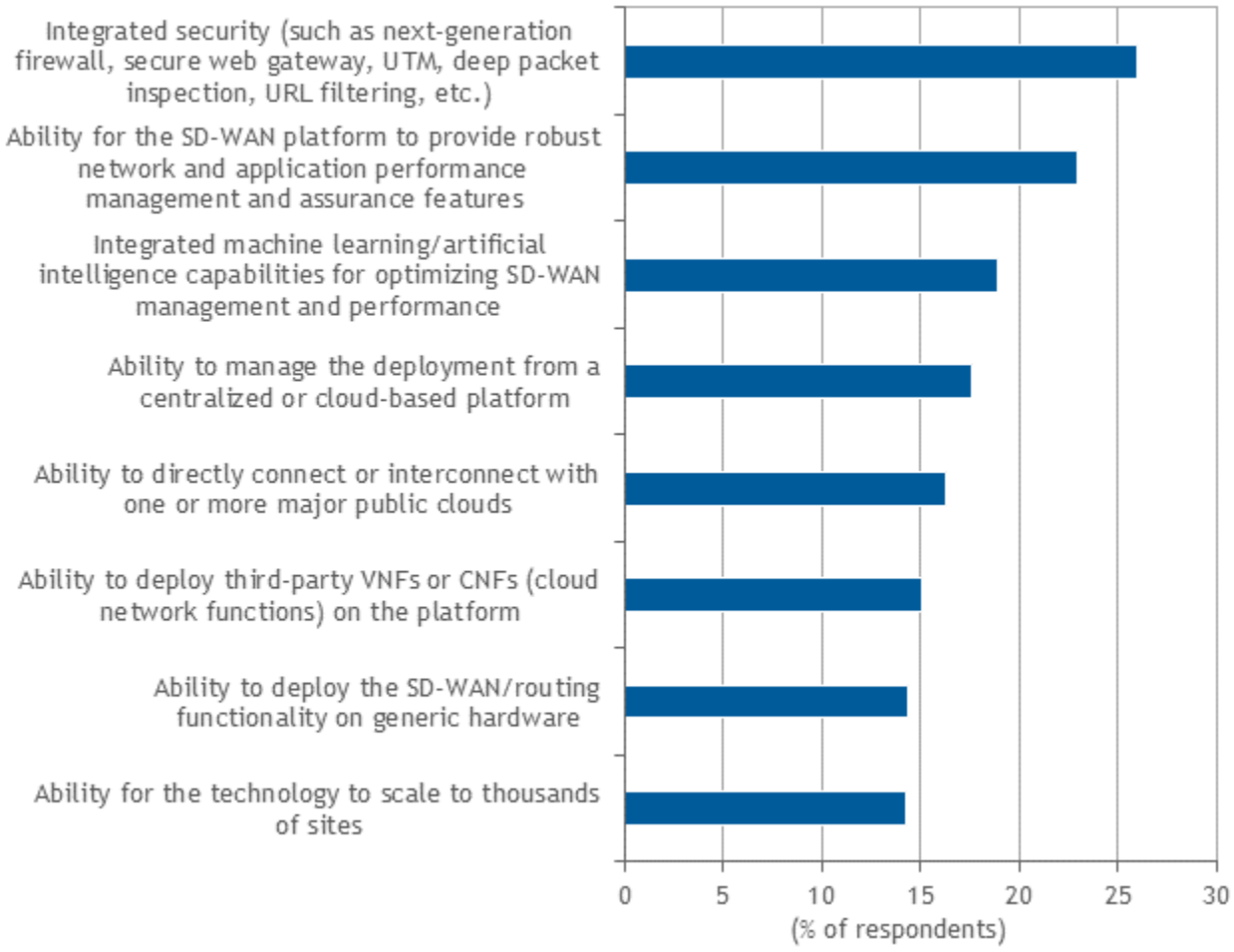
All SD-WAN products featured in this IDC MarketScape have a core set of features. These include WAN routing, management of multiple WAN links (e.g., broadband, MPLS, and 4G/LTE), dynamic WAN path selection, application-based policy controls, and application steering and prioritization. Beyond these features, most SD-WAN offers on the market today include additional features such as direct connections to public clouds (IaaS and SaaS), WAN link visibility and analytics, end-user experience monitoring, zero-touch provisioning, integrated security, and cellular routing options.

Other factors SD-WAN buyers should consider are discussed in the sections that follow.

FIGURE 2

Most Important Features of a Modern Enterprise-Grade SD-WAN Platform

Q. What features do you believe are most important in a modern, enterprise-grade SD-WAN platform? (Select up to two responses.)



n = 1,044

Base = respondents currently use or plan to use SD-WAN technology solutions in the next two years

Source: IDC's *Software-Defined WAN (SD-WAN) Survey,* November 2022

SD-WAN + Security

One of the most significant developments in the market in recent years has been the advancement of integrated security functionality in SD-WAN products. Security is an important part of any networking investment, but there are multiple dimensions to the trend of more integrated management of SD-WAN and security. One aspect concerns the natively integrated security capabilities offered by SD-WAN vendors. Common security features in SD-WAN products include intrusion detection and prevention (IDS/IPS), next-generation firewall (NGFW), and content/web/URL filtering.

A second aspect of this trend is toward secure access service edge (SASE) architectures, which combine SD-WAN with cloud-based network edge security as a service (NESaaS) tools, such as a secure web gateway (SWG), cloud access security broker (CASB), and zero trust network access (ZTNA). SD-WAN customers can work with their existing SD-WAN vendor to consume NESaaS and build a SASE architecture or use a multivendor approach.

It's important for SD-WAN buyers to consider what security capabilities they value from an SD-WAN today and into the future. As SD-WANs control connectivity from the enterprise edge across the wide area network, it's beneficial to have on-premises or cloud-based security integrated with the SD-WAN. But IDC research shows there is a significant portion of SD-WAN buyers that continue to evaluate SD-WAN infrastructure for the networking-specific capabilities of the SD-WAN. This research focuses on the networking strategy and capabilities of SD-WAN vendors, while also taking into account integrated and partner-led security approaches of SD-WAN vendors.

SD-Branch: SD-WAN + LAN/WLAN

Another important trend is the software-defined branch (SD-Branch), which refers to integrated management of SD-WAN with LAN/WLAN networks. SD-Branch architectures create an opportunity for enterprises to have centralized visibility, analytics, and management of their network, across the LAN/WLAN and SD-WAN. Other benefits of SD-Branch include the ability for advanced ML/AI-enhanced management and leveraging a cloud-based platform. SD-Branch is ideal for customers that want to consolidate management across their campus and branch for ease of management.

SD-WAN Deployment Options

Most SD-WAN vendors offer customers various deployment options, including integrated hardware — typically a router or firewall, or both — along with virtualized versions of the SD-WAN software that can be deployed on existing infrastructure or hosted in a public IaaS cloud. Organizations also have a choice related to architectural designs of their wide area network. For example, from a multicloud access perspective, many SD-WAN vendors offer integrations with IaaS provider WANs, such as AWS Cloud WAN or Azure Virtual WAN. Many SD-WAN vendors also offer integrations with colocation vendors such as Equinix and Megaport, which provide direct connections from the colocation vendor into IaaS and SaaS clouds. Alternatively, many SD-WAN vendors are building software-defined cloud interconnect (SDCI) services that utilize a series of points of presence (POPs), usually hosted in colocation facilities, that provide access to IaaS and SaaS clouds.

Customers have a choice for the SD-WAN management platform being hosted on premises or from the cloud. Most SD-WAN vendors offer a cloud-hosted management plane, but some offer on-premises management too. Enterprises may also consider existing relationships they have with SD-WAN vendors across other product areas and what sorts of licensing discounts they may be able to receive as part of a longer-term subscription package.

Another consideration is what type of partner would organizations like to purchase SD-WAN infrastructure from. Some SD-WAN vendors have value-added resellers (VARs), others rely on communication service providers (SPs) that bundle WAN connectivity (e.g., MPLS, broadband, or cellular) with an SD-WAN service. Many managed service providers bundle and integrate the requisite underlays (transports) with an SD-WAN overlay.

Visibility and Analytics

Other factors enterprises should consider are what sort of visibility and analytics platforms they require from their SD-WAN vendor. Some vendors have robust platforms that monitor not just WAN link health, but application and user experiences too; others offer visibility platforms that extend into the local area network. Increasingly, visibility and analytics platforms feed data into AI/ML-enhanced SD-WAN management platforms, which can recommend ways to optimize user and application experiences or automatically fix problems that arise.

The aforementioned criteria are among the considerations enterprises should research when purchasing SD-WAN infrastructure, but some features and functions will be more important than others for individual customers. Organizations should always think about what business need they have and then consider what solution will best meet those needs.

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and challenges.

Palo Alto Networks

Palo Alto Networks is positioned in the Leaders category in the 2023 IDC MarketScape for worldwide SD-WAN infrastructure.

Palo Alto Networks (PANW) is a cybersecurity company founded in 2005 with headquarters in Santa Clara, California. The company entered the SD-WAN infrastructure market in 2020 with the acquisition of CloudGenix, a company that was founded in 2013 and was one of the original start-ups in the SD-WAN infrastructure market. The Palo Alto Networks SD-WAN offering is branded Prisma SD-WAN. Palo Alto Networks has high levels of integration between Prisma SD-WAN and its suite of cloud-based security tools, named Prisma Access. The company has Prisma SASE, which combines Prisma SD-WAN and Prisma Access into a single offering. Palo Alto Networks also has a user and application experience management platform named Autonomous Digital Experience Manager (ADEM).

Prisma SD-WAN focuses on four key principles: elastic networking, application-defined fabric, zero trust security, and ML/AI-enhanced automation. Elastic networks encompasses the ability to manage any WAN type, such as 5G, LTE, broadband, satellite, and MPLS, with high availability via a centralized controller-based architecture managed by a multitenant, cloud-native platform. Each function within the management platform is available through a secure REST API, including reporting, configuration, and deployment capabilities. A unique aspect of Prisma SD-WAN is the company's CloudBlades, an API abstraction platform that provides more than a dozen native third-party service integrations, including for IaaS and SaaS cloud providers, such as AWS Transit Gateway and Azure virtualWAN; UCaaS providers; and workflow operations and incident management platforms. Prisma SD-WAN extends security and performance to all devices, including IoT within a branch by providing visibility that helps secure devices and applications access with Prisma Access by acting as sensors and control points.

Prisma Access is a cloud-based security platform that offers firewall as a service, SWG, ZTNA and CASB, ML-powered threat prevention including IPS/IDS, URL filtering, malware analysis, and DNS security, among other cloud-based security offerings.

Prisma SD-WAN runs on the company's ION (Instant-On Network) SD-WAN appliances, which are available in both physical and virtual versions. Virtual ION (vION) can be deployed in public clouds (e.g., AWS, Azure, GCP, and colocation facilities like Equinix). Two appliances — the ION 1000 and ION 1200 — can be used for remote and hybrid workers as a gateway for connecting into Prisma Access and Prisma SD-WAN management platform. The ION 1200 has integrated 5G backup LTE for wired and wireless connectivity. Prisma SD-WAN provides a fail-to-wire capability that allows highly available appliances to seamlessly fail over while performing at 100% WAN capacity, and Prisma SD-WAN supports SD-WAN appliances at customer locations to not be upgraded at the same time as the centralized platform, allowing customers to plan staggered upgrades while accessing feature enhancements of the centralized cloud-based controller.

Strengths

- Palo Alto Networks is known for being an enterprise security company and has integrated the Prisma SD-WAN technology into its broader family of products to create a SASE offering.
- Palo Alto Networks sells a single SASE offering that combines Prisma SD-WAN with Prisma Access, along with optionally including ADEM. This single offering allows enterprise customers, and service providers, to consume highly integrated SD-WAN and security tools more easily.
- Palo Alto Networks has an opportunity to grow by selling its Prisma SD-WAN offering into its existing Palo Alto Networks customer base, particularly the company's on-premises firewall customer base.
- The company has an intuitive and feature-rich management platform, strong API support, and an integrated visibility and analytics tool.

Challenges

- Palo Alto Networks takes a cloud-first approach to SASE, which combines cloud-managed Prisma SD-WAN with cloud-managed security in Prisma Access. While the company offers options for customers to manage their SD-WAN and security services on premises, the company's strength is in cloud-managed SASE, which could be a limitation for some customers that do not want to embrace a cloud-based security offering.
- Palo Alto Networks has a strong cloud-based security platform in Prisma Access, which many customers use as part of a multivendor SASE platform in which the Prisma Access integrates with a third-party SD-WAN infrastructure. If customers use Prisma Access as a network edge security as a service platform, but not the accompanying SD-WAN, it could limit the company's growth in the SD-WAN infrastructure market.
- Palo Alto Networks is primarily a security company and entered the SD-WAN market in 2020 through an acquisition, so it has had challenges appealing to organizations looking for a routing heritage in their SD-WAN vendor.
- Palo Alto Networks does not have strong integrations or an offering for campus local area networking technology such as WLAN and LAN.
- Palo Alto Networks continues to build up its go-to-market channel, particularly with communication service providers. While communication SPs could be a significant go-to-market opportunity for the company in the future, it will also face competition from other SD-WAN and security vendors in leveraging the communication SPs as a channel.

Consider Palo Alto Networks When

The top vertical markets for Prisma SD-WAN include manufacturing, financial services, wholesale/retail, hospitality, and professional/legal services. Customers that are interested in a tightly integrated SD-WAN and security offering should consider Palo Alto Networks Prisma SASE solution, which combines Prisma SD-WAN with Prisma Access. Prisma SD-WAN is also a good fit for customers that use Palo Alto Networks' existing security tools or customers that prefer a cloud-managed approach to SD-WAN or security.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today. Under this category, IDC analysts look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

IDC's definition for software-defined wide area network (SD-WAN) infrastructure encompasses the hardware and software infrastructure products offered commercially by vendors.

SD-WAN provides automated management of hybrid WANs, defined as at least two WAN connections from each branch office leveraging two or more underlying transport networks (e.g., MPLS, broadband internet, 4G/LTE/5G).

SD-WAN includes a centralized, application-based policy controller; a software overlay that abstracts underlying networks; analytics and/or telemetry for application and network visibility; and an optional SD-WAN forwarder (routing capability). Together, these provide an intelligent path selection across WAN links, based on the application policies defined on the controller.

Accordingly, SD-WAN software and hardware infrastructure includes the following:

- SD-WAN controller for centralized implementation of application policy, intelligent WAN path selection, and network visibility/analytics
- SD-WAN edge routing software or hardware infrastructure
- Traditional routers and WAN optimization products (hardware/software) — only when they are integrated into and deployed as an "in use" component of the SD-WAN solution

As such, the SD-WAN infrastructure addressed in this IDC MarketScape excludes the following:

- All standalone routers that are not encompassed by "in use" SD-WAN deployments
- Security products that are part of a network edge security as a service, Secure Services Edge (SSE), or secure access services edge (SASE) deployment
- SD-WAN managed services (i.e., setup, operations, and support)

LEARN MORE

Related Research

- *Worldwide SD-WAN Infrastructure Market Shares, 2022: Growth Continues, Driven by Cloud and Security* (IDC #US50604223, May 2023)
- *SD-WAN and Security Convergence: Are Enterprises Looking for SD-WAN Integrations with Existing Security Tools or Best-of-Breed Security Solutions?* (IDC #US50528623, March 2023)
- *Five Key Enterprise Networking Trends Driving Connectedness Strategy in 2023* (IDC #US50412923, March 2023)
- *Worldwide Multicloud Networking Forecast, 2023-2027* (IDC #US50470923, March 2023)
- *Global Cloud Networks: Cloud WANs as Digital Infrastructure* (IDC #US50438623, March 2023)
- *Worldwide vCPE/uCPE Forecast, 2023-2026* (IDC #US47851822, February 2023)
- *Top Features of a Modern, Enterprise-Grade SD-WAN: Integrated Security, Network/App Performance and Assurance, and ML/AI-Enhanced Automation* (IDC #US50049523, January 2023)
- *Worldwide SD-WAN Infrastructure Forecast, 2022-2026* (IDC #US48793922, June 2022)

Synopsis

This IDC study provides a detailed analysis of 12 vendors in the worldwide SD-WAN infrastructure market, along with profiles of three vendors to watch. This research followed the IDC MarketScape research process, which includes in-depth interviews with each of the vendors profiled in the document, along with customer interviews.

"SD-WAN remains one of the most important markets in enterprise networking, driven by a variety of factors. Organizations around the globe continue to invest in SD-WAN to optimize their edge network connectivity, enhance user and application experiences, enable increased operational efficiency, and save money," says Brandon Butler, research manager, Enterprise Networks, IDC. "This IDC MarketScape for worldwide SD-WAN infrastructure provides a detailed analysis of vendors in the SD-WAN market leveraging the proven IDC MarketScape research process. The research is meant to aid buyers in their selection of SD-WAN infrastructure vendors and provide IDC's view of the competitive landscape in this dynamic market."

About IDC

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