IDC MarketScape

IDC MarketScape: Worldwide SD-WAN Infrastructure 2021 Vendor Assessment

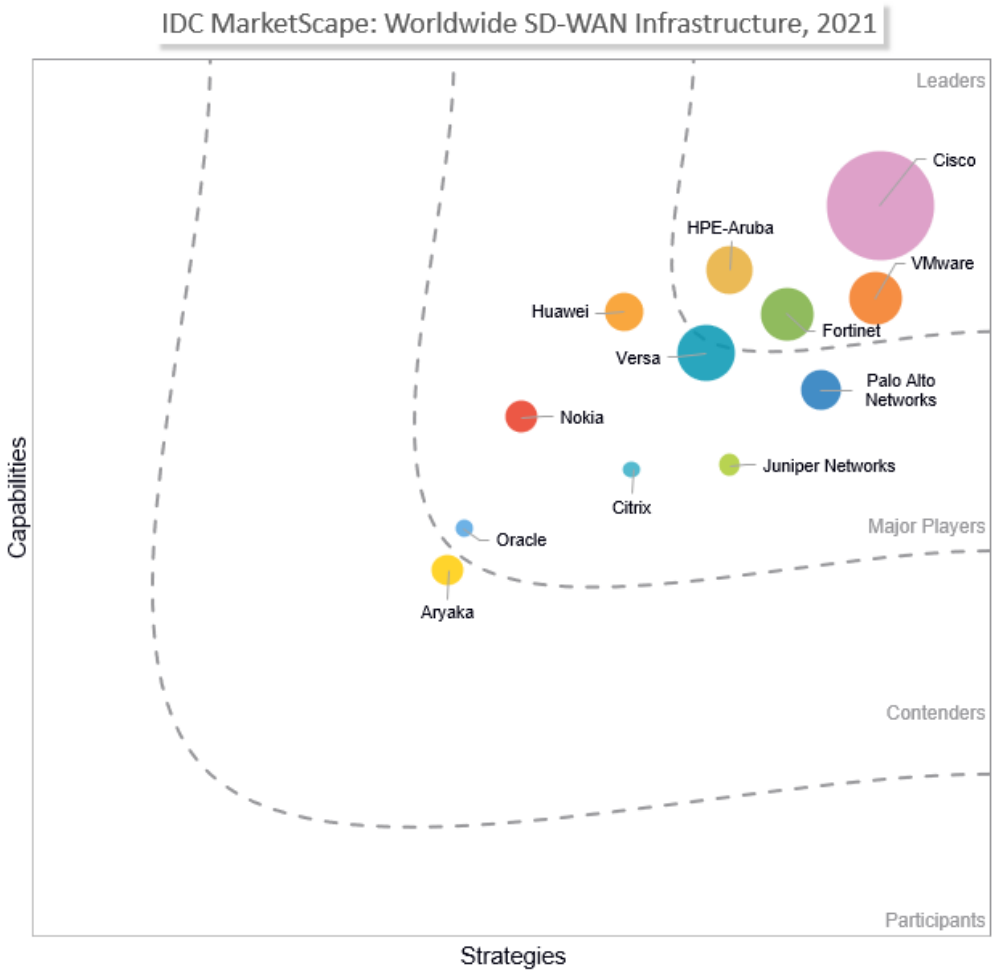
Brandon Butler

THIS IDC MARKETSCAPE EXCERPT FEATURES: CISCO

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide SD-WAN Infrastructure Vendor Assessment



Source: IDC, 2021

November 2021, IDC #US47279821e

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

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide SD-WAN Infrastructure 2021 Vendor Assessment (Doc #US47279821e). 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.

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 in the software-defined wide area networking (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 one of the fastest-growing segments of the network infrastructure market due to this technology's ability to improve user and application experiences, provide integrated connectivity and security, enable seamless connectivity to the cloud and hosted applications, and provide an opportunity for organizations to save money.
- Key components of SD-WAN infrastructure include a centralized policy controller, automatic management of hybrid WAN connections, dynamic path selection of application traffic, and optional programmability, security, and analytics of wide area network (WAN) traffic.
- SD-WAN enables myriad benefits for organizations 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, 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 2020, the SD-WAN infrastructure market grew 18.5%. Through 2025, IDC estimates that the market will grow at a compound annual growth rate of 18.9%.
- IDC's Digital Infrastructure research has identified the critical role of cloud-centric, consumption-based, and highly automated cloud and datacenter digital infrastructure architectures as enablers of digital business transformation and agility. IDC expects enterprise adoption of as a service and subscriptions for cloud and dedicated compute, storage, network, and edge systems and software — including SD-WAN offerings — will increase faster than traditional capex-centric infrastructure in the years to come.
- The need for intelligent, adaptable, and always-on (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 $20 million per year in SD-WAN infrastructure revenue.

This document also includes a profile of Extreme Networks in the Vendor to Watch section. This company did not meet our criteria for full inclusion in the study but is likely to be an important SD-WAN infrastructure vendor in the future.

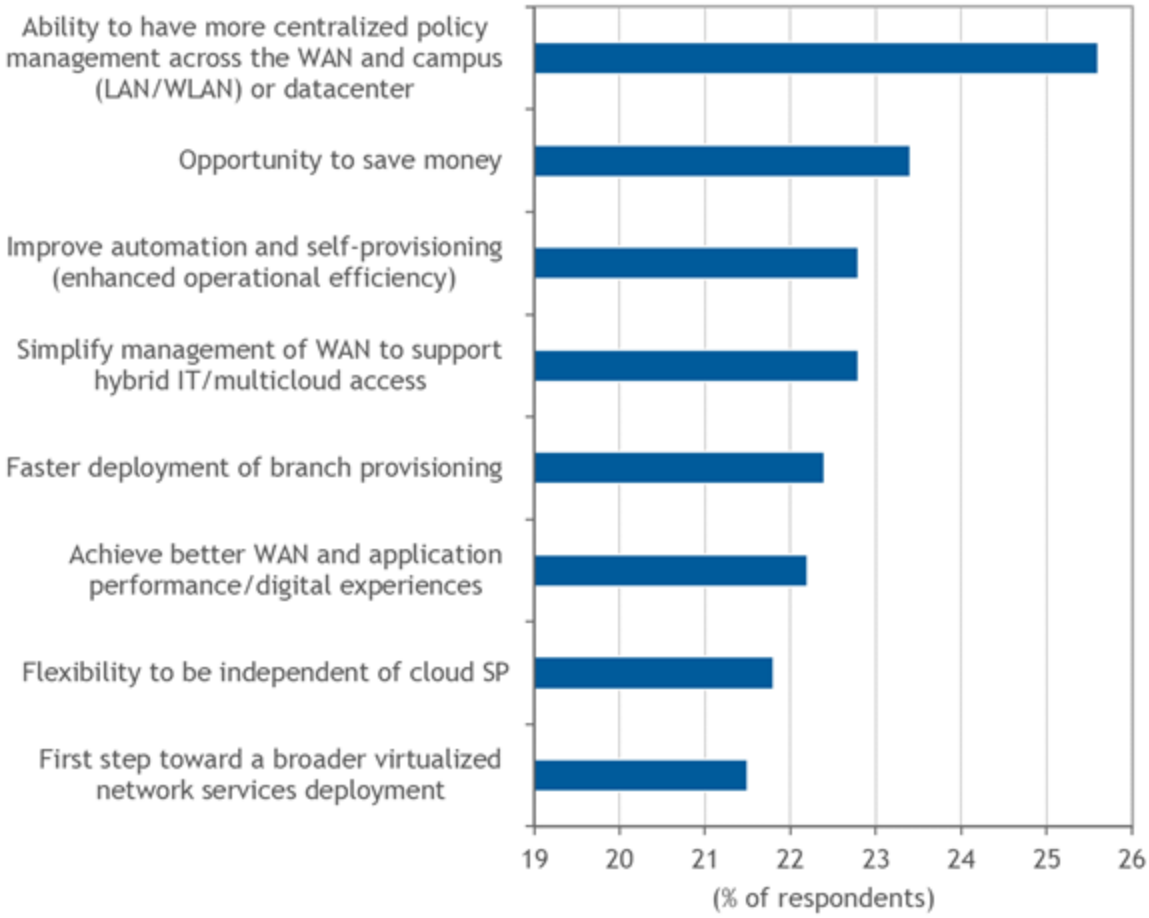
ADVICE FOR TECHNOLOGY BUYERS

SD-WAN infrastructure is a compelling technology for any organization looking to improve WAN reliability, optimize network performance and user experiences for applications accessed via the WAN, or reduce costs or avoid future cost increases on WAN connectivity. Figure 2 shows data from a global survey which asked respondents what their top motivations were for deploying SD-WAN. Centralized management of WAN and local area network (LAN), operational efficiencies, and simplified WAN for multicloud access were among the top-rated responses.

FIGURE 2

Top Motivations for SD-WAN Deployments

Q. What are the top motivations for considering an SD-WAN deployment (percentage of respondents selecting)?



n = 375

Note: Multiple responses were allowed.

Source: IDC's *Global SD-WAN Survey,* June 2021

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 optimized connections to public clouds (IaaS and SaaS), WAN link visibility and analytics, end-user experience monitoring, zero-touch provisioning, and forward error correction.

Other considerations perspective SD-WAN buyers should take into account are discussed in the sections that follow.

SD-WAN + Security

One of the most significant developments in the market in recent years has been the advancement of integrated security functionality with SD-WAN products. This provides an opportunity for SD-WAN customers to use natively integrated security features from their SD-WAN vendor or integrate the SD-WAN with a third-party security toolset. IDC refers to the comanagement of network and security functions as the software-defined branch (SD-Branch). When vendors offer cloud-managed networking and security capabilities, it is referred to as the secure access service edge (SASE). Common security features in SD-WAN products include intrusion detection and prevention (IDS/IPS), next-generation firewall (NGFW), and content/web/URL filtering. Similarly, almost all SD-WAN vendors have integrations with third-party security tools, most commonly with cloud access security brokers (CASBs) or secure web gateway (SWG) providers such as Zscaler and Check Point.

SD-WAN Deployment Options

Most SD-WAN vendors offer customers various deployment options, including offering 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 gateways, such as AWS Transit Gateway 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 organizations would like to purchase SD-WAN infrastructure from. Some SD-WAN vendors have value-added resellers (VARs), others rely on communications 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.

SD-WAN + LAN

Increasingly, some SD-WAN vendors are building integrated network management offerings that include the ability for centralized visibility, and some management features, of enterprise campus and remote/branch office sites, usually via a cloud-based platform. While LAN/WLAN and WAN networks are still largely managed separately, IDC expects networking vendors with strong access technology solutions to explore ways of building integrated management features across the LAN, WLAN, and SD-WAN, which IDC also refers to as SD-Branch. One benefit of this approach is it provides an opportunity for enterprises to have centralized visibility and analytics into their enterprise network, across the LAN and WAN, and some policies related to user, application, or network prioritization that are applied across both networking domains.

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.

These 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.

Cisco

Cisco is positioned in the Leaders category in the 2021 IDC MarketScape for worldwide SD-WAN infrastructure.

Cisco has two primary products in its SD-WAN portfolio: Cisco SD-WAN powered by Viptela and Cisco SD-WAN powered by Meraki. The Cisco SD-WAN powered by Viptela platform stems from the company's 2017 acquisition of Viptela, one of the initial start-ups that helped develop the SD-WAN market.

The primary management platform for Cisco SD-WAN powered by Viptela is vManage, and recent innovations have focused on three areas: multicloud connectivity, security, and analytics. From a multicloud connectivity standpoint, Cisco SD-WAN has direct integrations with the major IaaS and SaaS vendors, including Amazon Web Services (AWS), Azure, Google Cloud Platform (GCP), and AliCloud. The company has built-in optimizations to support popular SaaS offerings, such as Microsoft 365 and Cisco WebEx unified communication platform. Cisco has also recently built a partnership with Equinix to provide SD-WAN Cloud Interconnect, which leverages Equinix for access to a variety of cloud applications and destinations; Cisco also has a partnership with Megaport for similar SDCI capabilities. The company has also recently announced a strategic partnership to use Google's IaaS cloud backbone for site-to-site interconnect via Cisco CloudHub. The company has recently delivered innovations for DevOps teams to automatically apply specific network policies to internally created cloud-native apps. Beyond network transport features, Cisco SD-WAN also integrates application optimization features such as data redundancy elimination (DRE), TCP optimization, and data compression as well as an integrated application telemetry for Microsoft Office 365.

On the security front, the company's Umbrella and Duo platforms are key tools that integrate natively with both vManage and Meraki. Umbrella provides a Secure Internet Gateway (SIG), along with firewall, DNS security, and a cloud access security broker, while Duo provides a zero trust network access (ZTNA) framework; the security platforms also leverage Cisco Talos for threat intelligence. As part of the new Cisco+ offering, the company has a road map to offer an integrated subscription-based license for vManage, Umbrella, Duo, and ThousandEyes (for visibility).

On-premises Cisco SD-WAN security includes SSL decryption, intrusion prevention, URL filtering, and malware sandboxing. Cisco SD-WAN has an integrated application-aware zone-based firewall with logging, inspection, and access control. Cisco SD-WAN integrates user identity-aware security-based on Cisco Trustsec and Security Group Tags, and the platform is SGT aware and can enforce access control at the network layer based on user identity, allowing for policy enforcement across sites and clouds.

In analytics, Cisco is leveraging its acquisition of ThousandEyes to provide detailed visibility and analytics and, in the future, to provide closed-loop telemetry capabilities to automatically resolve issues. For deployment options, the company uses its platform of ISR and Catalyst 8000 series routers, along with having a range of software-based virtualized routers. Cisco SD-WAN powered by Viptela also offers integrated unified communications management through vManage for centrally configuring, deploying, and maintaining branch telephony functions.

Cisco SD-WAN powered by Meraki provides a simplified, cloud-managed platform that includes zero-touch provisioning and an intuitive web interface. Native security features include a next-generation firewall, content filtering, IDS/IPS, antimalware, a GeoIP firewall, and HTTPS inspection. Other recent advancements in the Cisco SD-WAN portfolio include performance-based underlay routing and VPN exclusion for optimized SaaS experience and mixed wired and cellular SD-WAN via either an integrated LTE device or dedicated cellular gateway.

Cisco SD-WAN by Meraki also has increased analytics capabilities through Meraki Health, a suite of capabilities that leverages advanced analytics and ML capabilities to determine root cause analysis of problems that arise across the WAN and LAN. Meraki Insights for web application, WAN health, and VoIP health also includes Smart Thresholds for intelligently setting thresholds for application performance. Cisco SD-WAN by Meraki runs on the company's MX physical or virtual unified threat management (UTM) infrastructure, and the company offers an ability to deploy the Meraki MX, MG, and Z Series appliances for remote workers.

Strengths

- Cisco has been able to leverage its strong heritage in enterprise routing to build its SD-WAN market share, particularly the ISR customer base.
- Cisco has a strong go-to-market channel with a large network of resellers, managed service providers, and value-added resellers, along with partnerships with many prominent communications service providers.
- Cisco's acquisition of ThousandEyes gives its Viptela and Meraki platforms a strong visibility and analytics platform.
- Cisco Viptela has built strong integrations for multicloud connectivity, particularly through recent enhancements with Google Cloud Platform and Equinix to create direct cloud on-ramps to interconnection sites.
- Cisco Meraki offers a range of integrated network and security solutions, from WLAN and ethernet switching to SD-WAN and integrated security, along with remote worker tools, all delivered from a cloud-managed platform.

Challenges

- Cisco's dual products — Viptela and Meraki — can cause some confusion in the market and for customers about which platform is best for which use cases.

- Cisco has strong natively integrated security capabilities, primarily through Umbrella and Duo, but the company's integrations are not as strong with third-party security tools.
- Cisco has an opportunity to further build integrations across its WAN and LAN portfolios, including across it's SD-WAN portfolio and its line of popular Catalyst switches, WLAN equipment, and DNA Center software.
- Cisco is often considered a "premium" option and may not be ideal for price-conscious SD-WAN buyers.

Consider Cisco When

Cisco has a broad range of networking solutions for organizations of multiples sizes and structures and provides an easy migration path for existing Cisco routing customers to transition to SD-WAN. Top verticals for the Cisco SD-WAN by Viptela portfolio include government, manufacturing, financial and professional services, retail, education, and healthcare. For Cisco SD-WAN by Meraki, the cloud-managed platform is known for its simplicity in deployment and ongoing management, which makes it a good fit for distributed enterprise and "lean IT" organizations. Top verticals for Meraki include retail, healthcare, professional services, manufacturing, and financial services.

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, here and now. Under this category, IDC analysts will 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

This document pertains to SD-WAN infrastructure, which encompasses the infrastructure/products that constitute SD-WAN hardware and software offerings from vendors. SD-WAN infrastructure has the following capabilities:

- Provides automated management of hybrid WANs, which are defined as at least two WAN connections from each branch office that leverages two or more networks (MPLS, broadband internet, 4G/LTE, etc.)
- Includes a centralized, application-based policy controller with optional analytics for application and network visibility
- Includes a software overlay that abstracts underlying networks and an optional SD-WAN forwarder (routing capability) that together provide intelligent path selection across WAN links based on the application policies defined on the controller

As such, IDC's market sizing for SD-WAN infrastructure excludes all standalone routers and WAN optimization products that are not encompassed by "in use" SD-WAN deployments. IDC also excludes managed services (e.g., setup, operations, and support), connectivity, security, and leased line service costs (e.g., MPLS, broadband, and 4G/5G) when sizing the SD-WAN infrastructure market.

LEARN MORE

Related Research

- *Worldwide vCPE/uCPE Forecast, 2020-2025: Emergence of SD-Branch and NaaS Provides Opportunity for Communications Service Providers* (IDC #US48177321, September 2021)
- *Extreme Sets Sights on SD-WAN with Purchase of Ipanema* (IDC #IcUS48181821, August 2021)
- *Worldwide SD-WAN Infrastructure Market Forecast, 2021-2025* (IDC #US47272921, July 2021)
- *Five Key Trends Driving the Enterprise Networking Market in 2021* (IDC #US47488821, March 2021)
- *Five Major Datacenter and Multicloud Networking Trends in 2021 and Beyond* (IDC #US47498321, March 2021)
- *Five Key Carrier Network Infrastructure Trends to Watch in 2021* (IDC #US47479421, February 2021)
- *Future of Enterprise Networking: Emergence of the New Normal* (IDC #WC20210202, February 2021)
- *Branch of One: Evolution of the Enterprise Network Edge for Remote Workers* (IDC #US47476821, February 2021)

Synopsis

This IDC study provides an assessment of the capabilities and business strategies of 12 vendors in the worldwide SD-WAN Infrastructure market for 2021.

"The SD-WAN infrastructure market continues to be one of the fastest-growing segments of the networking market, driven by the significant value this technology enables for organizations. As enterprises look toward the future state of their networks, they're increasingly looking for technology

that helps optimize connectivity to cloud-based applications, while also exploring ways to integrate security functionality directly into their networks," says Brandon Butler, IDC research manager, Enterprise Networks. "Today's SD-WAN products increasingly achieve these goals while also providing detailed visibility and analytics into WAN health, application, and user performance. These advancements will continue to make SD-WAN a key technology for enterprises as they look to build out their digital transformation journeys in 2022 and beyond."

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

Global Headquarters

140 Kendrick Street
Building B
Needham, MA 02494
USA
508.872.8200
Twitter: @IDC
blogs.idc.com
www.idc.com