Magic Quadrant for Global WAN Services

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Enterprises' global WANs must respond rapidly and reliably to the ever-changing needs of the enterprise to deliver on its digital business initiatives. I&O leaders can use this research to evaluate and select optimal global network service partners.

Strategic Planning Assumptions

By 2026, 60% of new SD-WAN purchases will be part of a single-vendor SASE offering, up from 15% in 2023.

By 2028, on-premises networking as a service (NaaS) will be adopted by 15% of all enterprises, which is an increase from less than 2% in 2023.

By the end of 2027, 30% of enterprises will use SDCI services to connect into public cloud service providers (CSPs), up from less than 10% in 2022.

The share of enterprise sites using 5G as a primary or backup fixed wireless connectivity option will grow to 15% in 2027, up from 2% in 2023.

By 2028, large enterprises located in the G-20 countries will be required to allocate 25% more of their IT spending on domestic suppliers, compared with 2023 levels (see Note 1).

Market Definition/Description

This document was revised on 17 May 2024. The document you are viewing is the corrected version. For more information, see the **Corrections** page on gartner.com.

Gartner defines global WAN services as POP-based services supporting multiregional corporate networks across geographies. These services address enterprise challenges such as changing working practices, accelerating digital and cloud transformations, and improving the agility of enterprise networks. Providers own and operate their own global core networks and sell directly to the client. Services include transport-centric/unmanaged, managed, co-managed, or network as a service via a monthly recurring fixed or usage-based model. Core transport services are often complemented by ancillary services like carrier-based cloud interconnect, managed SD-WAN, SASE or managed dual-vendor SASE with SD-WAN paired with SSE security. Services are measurable and consumable through web-based customer interfaces via portals and programmable APIs.

As digital business initiatives increase the demands on the enterprise network, the need for reliable bandwidth continues to grow. Live and stored video is the main driver for increases in bandwidth, whereas IoT typically requires greater reliability. Gartner has also observed AI and machine learning (ML) being used in network monitoring, optimization and provisioning to quickly address shifting requirements, such as SaaS and evolving IaaS- and PaaS-based applications. All these drivers put both pressure and a level of criticality never before seen to ensure optimal performance and unfailing support.

Enterprises rely on global WAN services to deliver global and regional fixed, wide-area networking connectivity. These services consist of backbone network transport and last-mile access connections to deliver connectivity to individual enterprise sites, such as large or remote/branch office locations. Although these are core to the offer, service providers also offer more transformational capabilities enabled by the underlay service network.

Must-Have Capabilities

Gartner's view of the market is focused on foundational technologies or approaches delivering on the future needs of end users. All WAN services must be generally available and offer global coverage (North America, Europe and Asia/Pacific at a minimum). They may not be offered on an individual customer (one-off) basis or only in limited markets. This market segment does not include wholesale or services sold to other providers.

The core capabilities for this market include:

- **Ability to sell Multiprotocol Label Switching (MPLS) to enterprise customers globally.**
- **Ability to sell internet services to enterprise customers globally, including dedicated internet access (DIA) and broadband/DSL.** DIA should be offered as the provider's own service, which can be supplemented by DIA from partners. Broadband internet can be a resold solution but must be generally available on a global basis.
- **WAN Service POPs are provider-owned network equipment either located at the provider's own facilities, colocation facilities, or at a third-party facility.**

Standard Capabilities

The standard capabilities for this market include:

- **Carrier-based cloud interconnect (CBCI):** This is a private connection such as MPLS and/or Ethernet, between a service provider's enterprise network services and the private connection option of one or more communications service providers (CSPs). CBCI requires an interconnection between the network service provider (NSP) and the cloud provider at a provider-owned or third-party location such as a data center or colocation facility. CBCI also must be available on a global basis to the major cloud providers.
- **Managed SD-WAN services:** Management of enterprise software-defined WAN (SD-WAN) can be delivered either by edge devices or through providers' network-based SD-WAN gateways

globally. SD-WAN gateways can terminate SD-WAN connections from on-site appliances close to external resources such as cloud services. SD-WAN is augmented with network-based security capabilities to offer secure access service edge (SASE).

- **Managed SASE:** Managed SASE with single-vendor or dual-vendor SASE combining SD-WAN and security service edge (SSE) security from two integrated partners.

Optional Capabilities

The optional capabilities for this market include:

- **4G/LTE and 5G cellular WAN access:** Cellular services can be used as a type of WAN transport, especially in SD-WAN networks, enabling rapid deployment of new locations, supporting temporary locations and providing diversified backup links.

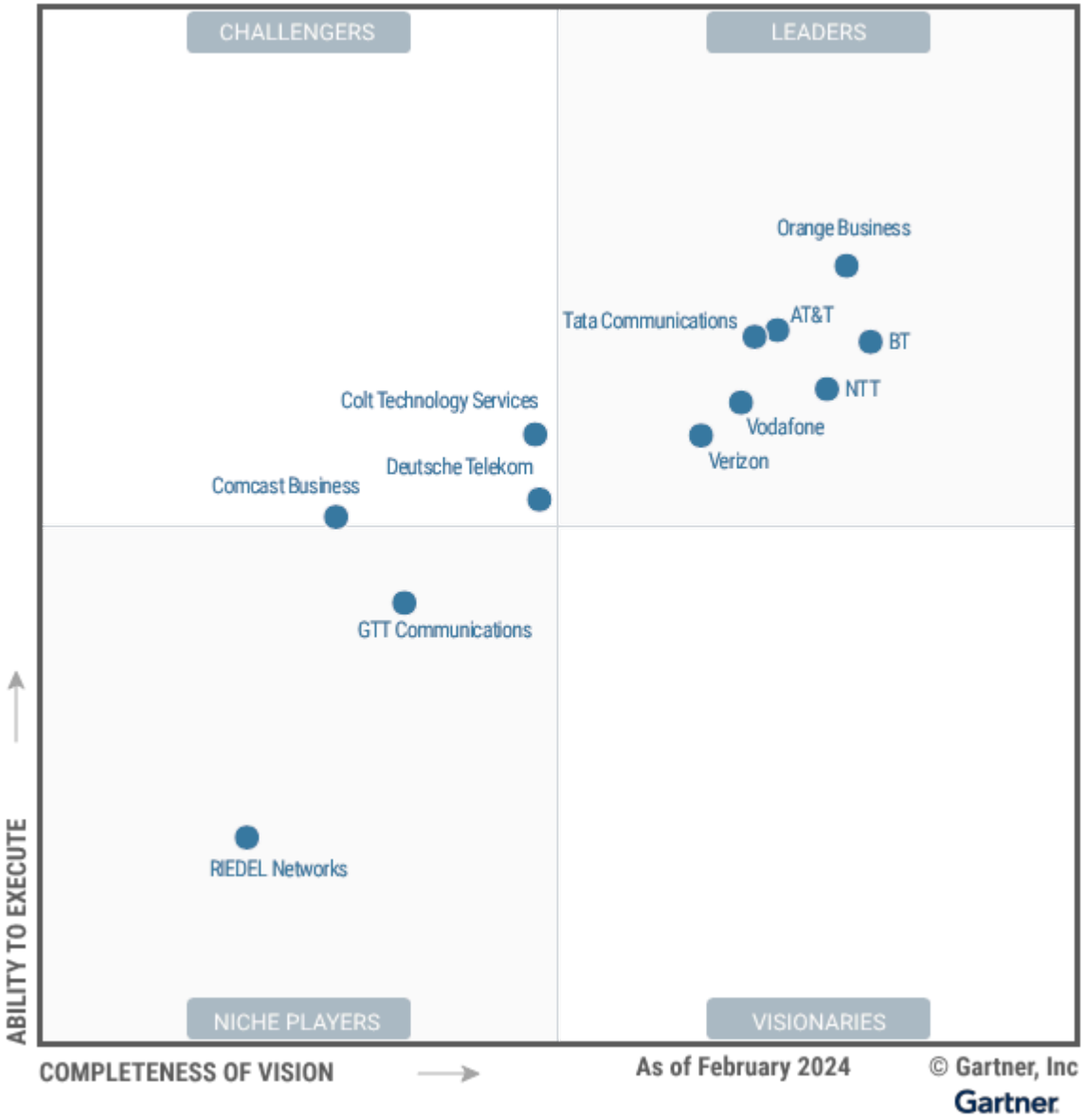
- **Network on demand (NoD):** NoD services from NSPs enable enterprises to make near-real-time changes to access/port bandwidth, change the WAN service types delivered over a network port, and add and remove endpoints (for example, connections to cloud providers). This occurs under software control via provider-supplied customer web portals or APIs.

- **Enhanced internet services:** Enhanced internet backbone services or other approaches — including (but not limited to) deterministic routing, ISP federations and network-based SD-WAN gateways — are designed to improve and stabilize the performance of purely internet-based global networks.

- **Network function virtualization (NFV):** NFV is an architecture to deliver multiple network functions — including routing, firewall, SD-WAN, WAN optimization and visibility — as software, called virtual network functions (VNFs). NFV can be implemented on universal customer premises equipment (uCPE) — typically via industry-standard x86 devices used in place of function-specific appliances — and in NFV service nodes. That is, it can be located in the provider's network or in colocation facilities. NFV enables network functions to be activated on demand, deactivated when no longer required and consumed on an as-a-service basis.

Magic Quadrant

Figure 1: Magic Quadrant for Global WAN Services



Vendor Strengths and Cautions

AT&T

AT&T is a Leader in this Magic Quadrant. Based in Dallas, Texas, AT&T is a major provider of U.S. fixed and mobile network services and global enterprise network services.

AT&T's Multiprotocol Label Switching (MPLS) network covers 62 countries, while its internet backbone reaches 50 countries. In addition to cities where it only provides carrier-based cloud interconnect (CBCI) by exchanges, AT&T has direct CBCI connections (NetBond) to 15 cloud service providers (CSPs) in 22 cities outside of the U.S. AT&T has simplified its managed SD-WAN portfolio, and now features solutions from Cisco, Broadcom (VMware), Hewlett Packard Enterprise (HPE) and Fortinet, with network-based gateways for these four vendors. Managed secure access service edge (SASE) is available in 103 countries and is based on Broadcom (VMware), Cisco Meraki/Catalyst, Fortinet, Zscaler and Palo Alto Networks. Its service availability is above average for MPLS, dedicated internet, SD-WAN gateways, cloud connectivity (NetBond), and portal and network on-demand service availability. The FlexWare network function virtualization (NFV) platform includes a broad range of virtual network functions (VNFs), available from both universal customer premises equipment (uCPE) devices and 46 NFV service nodes.

Enterprises of all sizes — particularly large multinational enterprises — should consider AT&T for global networking requirements, regardless of home country.

Strengths

- AT&T's MPLS SLAs are above average when compared to other providers in this research.
- AT&T's total access orchestration (TAO) node expansion provides greater flexibility to address enterprise requirements, which eases client migration from MPLS to internet. In addition, its expansion of 100 Gbps and local internet broadband internationally positions AT&T above average in market responsiveness and operations.
- AT&T's digital portal, AT&T Business Center, creates a common platform across all services, including bandwidth utilization alerts; AT&T Dynamic Exchange (ADX); multigig, third-party SD-WAN portal integration; and ebonding APIs.

Cautions

- AT&T is below average in terms of service enhancements (i.e., new vendors, new features), with minimal service enhancements to most elements of its WAN portfolio in 2023.
- AT&T's marketing campaigns primarily focus on U.S.-based clients and sites. It also has a lower proportion of sales professionals outside North America, coupled with limited planned incremental enhancements to its global (versus domestic) WAN services.
- AT&T only offers on-network, last-mile connectivity in the U.S., therefore is highly reliant on third-party access outside the U.S. market.

BT

BT is a Leader in this Magic Quadrant. Headquartered in London, BT provides global WAN services and U.K. fixed and mobile network services, through its BT business unit.

BT's MPLS service is available in 129 countries, and its internet backbone reaches 40 countries. Direct cloud connectivity is available in 53 cities outside the U.K. to 15 leading cloud providers, with extended reach available through exchanges. BT offers managed SD-WAN based on Cisco Catalyst/Meraki, Fortinet, HPE, Palo Alto Networks, Versa and Broadcom (VMware), with 81 network-based SD-WAN gateways globally. BT offers managed SASE for single-vendor options including Palo Alto Networks, Fortinet, Broadcom (VMware) and Cisco, and dual-vendor options that integrate SD-WAN with Zscaler or Netskope security service edge (SSE). BT leverages partner nodes in 29 countries to deliver SASE. BT has an NFV offering with a very broad range of VNFs that is available from uCPE devices and 31 NFV service nodes.

Large global enterprises should consider BT for global networking services in all major regions.

Strengths

- BT's internet services offerings for global WAN transport is one of the strongest among the providers in this research in terms of coverage, range of internet service options, SLAs, enhanced internet backbone and advanced routing capabilities.

- BT has commercially launched Global Fabric, which is a converged multiservice software-defined backbone network for enterprises that have been engineered for enhanced multicloud support, on-demand delivery and service automation combined with flexible commercial offerings.

- BT's leverage of AI, machine learning and automation in its network operations, security, and customer service and support is among the highest by service providers in this research.

Cautions

- BT is below average compared to its peers in sales momentum and customer satisfaction, and its SLAs lag its competitors' SLAs.

- For customers seeking to reduce the footprint of on-premises networking appliances, BT's depth of virtual network service offerings lags behind top performers in this category in terms of unique uCPE and POP-based VNFs supported.

- Customers should be aware of the strong progress in BT's rollout of Global Fabric to get the new capabilities and commercial offers that enhance current service options; however, customers must remain cautious about the possibility of service disruptions in migrating to BT's new converged backbone.

Colt Technology Services

Colt Technology Services is a Challenger in this Magic Quadrant. Headquartered in the U.K., Colt is a global infrastructure services company selling network and voice services to the enterprise market.

In November 2023, Colt Technology Services completed the acquisition of the EMEA business of Lumen Technologies, including the network services (see **Announced Corporate Transaction Notification: Colt Technology Services, Network Services, Global**). The research does not include Lumen-acquired assets or services.

Colt's MPLS network covers 31 countries, and its internet backbone reaches 28 countries. Colt offers SD-WAN based on Broadcom (VMware) with 21 network-based SD-WAN gateways, and Versa Networks, with 11 network-based SD-WAN gateways. Colt offers direct cloud connectivity to eight major cloud providers in 41 cities outside its home market of the U.K. While Colt offers managed SASE offerings using Versa Networks and Broadcom (VMware), and a dual-vendor option pairing Versa SD-WAN with Zscaler SSE in 25 countries, its offerings are more limited compared to other included providers. It offers NFV services, with a more limited range of support, including six VNFs from uCPE devices and 10 VNFs on its 83 NFV service nodes.

Global organizations with most of their locations in Europe and/or Asia/Pacific should consider Colt.

Strengths

- Assets recently acquired from Lumen will give Colt expanded network reach in Europe and the ability to expand WAN services to the Middle East and Africa.

- Colt has increased its use of automation, claiming 80% of its service provisioning and installation processes are now automated.

- Colt has a strong network-on-demand offering, including on-network and off-network availability for internet and Ethernet connectivity.

Cautions

- Colt has limited network coverage in Latin America, with no MPLS, dedicated internet access (DIA) gateways, or on-network, last-mile access availability in that region.

- Colt's cloud coverage is in the lower half of those included in this research. Beyond Amazon Web Services (AWS), Microsoft Azure and Google Cloud Platform (GCP) hyperscalers, Colt supports a limited number of unique cloud providers in all regions.

- Colt's SD-WAN lineup relies on just two vendors (VMware and Versa), which is less diverse than most other providers in this research. Its SASE service options also are comparatively limited.

Comcast Business

Comcast Business (Comcast) is a Challenger in this Magic Quadrant. Headquartered in the U.S., Comcast's roots have taken it from a predominantly U.S.-focus to a global provider through its acquisition of Masergy Communications in October 2021. It has integrated its services and assets, cross-selling Masergy and Comcast products to its customer base.

Comcast's MPLS network covers 18 countries, and its internet backbone reaches 24 countries. In addition to cities where it only provides CBCI by exchanges, Comcast Business offers direct connectivity to 17 CSPs in 13 cities outside of the U.S. Comcast offers SD-WAN based on Fortinet, Cisco Catalyst/Meraki, Versa Networks and HPE (U.S. only). Although it supports 59 Fortinet network-based SD-WAN gateways, the number of SD-WAN gateways for remaining vendors is very few in comparison and only in the U.S. Comcast offers a single-vendor SASE solution from Fortinet in 11 countries through its own nodes; it does not currently offer a dual-vendor solution. Its NFV platform includes a good range of VNFs from its 64 NFV service nodes, though it is below average in terms of unique VNFs per region.

Organizations should consider Comcast if they require network services in the major global markets or predominantly in North and Latin America.

Strengths

- Comcast's CBCI is the highest among providers in this research and excels in terms of the largest number of direct, unique CSPs per region. This is an indicator of how and where it chooses to invest.

- Based on Gartner client feedback, Comcast is above average on flexibility and adaptability in negotiating contracts, with above-average SD-WAN and MPLS SLAs.

- Comcast is positioned above average for its current sustainability efforts when compared to others in this research.

Cautions

- Comcast Business has no service-specific SLAs for network on-demand, SASE or enhanced internet. Dedicated internet and CBCI SLAs lag in comparison to other providers in this research.
- Compared to others in this research, Comcast is among the lowest in terms of sales and market understanding strategy. It was unable to provide specific evidence of planned relevant improvements or details on how these dovetail with major trends impacting global enterprises, and it did not substantiate its use cases or vertical industry strategy.
- Other than incremental growth to POPs in EMEA and LATAM, it continues to be heavily U.S.-oriented, with no specific plans to build international partnerships or promote its brand internationally.

Deutsche Telekom

Deutsche Telekom is a Challenger in this Magic Quadrant. Headquartered in Germany, it is a major European fixed and mobile service provider, in addition to offering global network services.

Deutsche Telekom's MPLS network covers 56 countries, and its internet backbone reaches 215 countries. It offers direct cloud connectivity in 10 cities outside its home country of Germany to eight cloud providers, with extended reach through exchanges. The vendor offers managed SD-WAN globally through its combined 293 SD-WAN gateways from Cisco, Fortinet, Juniper, HPE, Broadcom (VMware), Versa Networks, Palo Alto Networks and Aryaka, though Aryaka's footprint is country-specific. Deutsche Telekom does not operate its own SASE nodes, but supports managed SASE in 34 countries via resale. Deutsche Telekom's NFV offering supports a limited range of NFVs from uCPE devices and 166 NFV service nodes, including a strong presence in the Middle East Africa (MEA) region. This pure platform-based approach intends to give the flexibility to mix and match SD-WAN and SSE vendors.

Enterprises with global networks that are heavily weighted toward Europe should consider Deutsche Telekom.

Strengths

- Deutsche Telekom has the largest number of NFV service nodes, resulting in a strong presence in all regions in terms of number of countries, particularly in EMEA.
- Its integrated approach to deliver a fully managed SASE service is unique, with experts from both Deutsche Telekom Security and Deutsche Telekom Technik providing the expertise and sharing the responsibility to provide an end-to-end SASE service.
- Using its strategic investment in Teridion, Deutsche Telekom offers Premium Internet Underlay, which provides routing with multiple cloud-based virtual POPs worldwide to reduce latency and improve performance for applications.

Cautions

- Deutsche Telekom's customer portal is in its infancy and less sophisticated compared to all other providers in this research.
- Deutsche Telekom only offers on-network, last-mile connectivity in eight European countries; therefore, it is highly reliant on third-party access outside those countries.
- Deutsche Telekom lags other providers in this research in terms of cloud connectivity, with the lowest number of CSP countries and lowest number of direct, unique CSPs per region.

GTT Communications

Privately held GTT Communications is a Niche Player in this Magic Quadrant. Based in Arlington, Virginia, U.S., GTT is a provider of global enterprise networking, security and voice services.

GTT's MPLS network covers 32 countries; its internet backbone also reaches 32 countries. In addition to countries where it only provides CBCI by exchanges, GTT offers direct connectivity to 11 CSPs in 10 countries outside the U.S. GTT offers managed SD-WAN from Broadcom (VMware), HPE and Fortinet, and primarily uses HPE gateways, with far fewer Broadcom (VMware) and Fortinet gateways. On SASE, GTT works with Palo Alto Networks and Fortinet to provide secure web gateway (SWG), SD-WAN, cloud access security broker (CASB) and firewall; with Zscaler on zero-trust network access (ZTNA); and with Broadcom (VMware) and HPE on SD-WAN across 34 countries. GTT offers NFV services via uCPE devices and 46 NFV service nodes in 22 cities, with a limited range of VNF types. It does not have a network-on-demand offer.

Enterprises with strong WAN coverage requirements in North America and Europe should consider GTT.

Strengths

- GTT shows a good understanding of common, popular, basic use cases, and of implementing vertical-industry sales and solution selling and certification programs (owned and third party).
- Adding low Earth orbit (LEO) satellites to its portfolio is assuring greater service availability and accessibility, and its EtherVision portal received positive client feedback. The portal's opening dashboard includes action menus for billing, reports and monitoring, and a network status map of site-based status and performance.
- Over half of GTT's salesforce is focused on opportunities outside of North America. Business cases for geographic expansion include new LATAM POPs and new network-to-network interfaces (NNIs) in APAC. Key regional partnerships include international fixed wireless access (FWA) with Blue Wireless; and LATAM and MENA procurement agreements, supplying Ethernet access in Africa and extending service into colocation.

Cautions

- GTT does not provide service-specific SLAs on enhanced internet. GTT also does not support network on demand making it one of only two providers in this research lacking this capability.

Across its WAN services, clients most frequently cite problems with installation time frames and customer service.

- GTT's salesforce is predominantly based in North America and Europe, supporting existing and new acquisition global customers. GTT has a limited salesforce and limited customer support in APAC and LATAM.

- GTT does not offer on-network, last-mile fiber connectivity and relies entirely on third-party providers for all access. Following its asset-light strategy, it also does not own any WAN POPs. Given these facts and its privately held strategy, clients should assess GTT's attractiveness in light of their tolerance for risk.

NTT

NTT is a Leader in this Magic Quadrant. It is headquartered in Japan. NTT provides a full range of network services around the globe.

NTT's MPLS network reaches 51 countries, and its internet backbone reaches 43 countries. NTT offers direct connectivity to nine major cloud providers in 57 cities outside of Japan. NTT offers managed SD-WAN globally based on Cisco Catalyst/Meraki, HPE, Versa Networks, Fortinet and Broadcom (VMware). NTT has a sizable number of SD-WAN gateways across all its vendor partners' network-based SD-WAN gateways in 53 countries, although it offers very few gateways in Latin America. NTT's SASE strategy is strong, including single-vendor options from Palo Alto Networks, Cisco, Fortinet, Versa and Broadcom (VMware), with multiple dual-vendor options with Palo Alto Networks, Cisco Umbrella, Versa, Fortinet, Zscaler and Netskope in 34 countries. It has a comprehensive NFV portfolio, with the largest number of unique VNFs across uCPE devices compared with others evaluated in this research. It also supports 118 NFV service nodes.

Enterprises with global WAN needs across all regions should consider NTT. For Latin America, it should be assessed selectively.

Strengths

- NTT's managed SD-WAN and SASE portfolios are stronger compared to others in this research, with numerous vendor choices and stronger SLAs compared to most providers in this research.

- NTT's managed WAN customer portal is more full-featured compared to others in this Magic Quadrant, with more automation-backed processes, network visibility, policy change features, and deeper analytics and incident reporting data.

- NTT's VNF offerings are the strongest in this research, with the largest number of unique VNFs available in all regions.

Cautions

- NTT's MPLS POP coverage lags all other major providers, particularly in Europe and in Latin America.

- NTT's SLAs should be carefully analyzed, as they are overly simple and nearly identical across many metrics. NTT's higher-priced enhanced internet services do not offer greater performance guarantees, such as latency or jitter, compared to its standard internet offerings.

- NTT does not offer on-network, last-mile connectivity outside of Japan. This can lead to higher prices and added complexity.

Orange Business

Orange Business is a Leader in this Magic Quadrant. Orange Business is the enterprise service unit of Orange, a global communications service provider headquartered in France.

Orange Business's MPLS network covers 98 countries, while its internet backbone covers 67 countries. The vendor supports direct cloud connectivity to nine major cloud providers in 13 cities outside of France. It offers managed SD-WAN services based on Cisco Catalyst and Fortinet through its network-based gateways (612 for Cisco and 66 for Fortinet). It recently added managed Broadcom (VMware) SD-WAN integrated into its Evolution Platform. Orange has fully integrated SASE into its core network, which supports cloud security via Fortinet FortiSASE, Palo Alto Networks Prisma Access, Cisco Umbrella, Netskope and Zscaler in 41 countries. It offers NFV with routing, SD-WAN, security and WAN optimization VNFs available from uCPE devices and 30 NFV service nodes.

Enterprises with requirements for global WAN services across all regions should consider Orange Business.

Strengths

- Orange Business has a stronger network presence in Europe, Latin America and the Middle East compared to most other providers in this research.

- Orange Business continues to invest in the build out of its Evolution Platform, a new software-defined and NFV-based POP infrastructure designed to enable cloud-like experiences for WAN edge-to-cloud connections. These include on-demand delivery of a broader catalog of VNFs, service automation, as-a-service commercial models and digital service front ends (portals and APIs).

- Orange is above average among the providers in this research in usage of automation and AI in service delivery with use cases in order creation, management of changes and incidents, field operations, and capacity management, among others.

Cautions

- Orange Business's sales organization, products and overall strategy is Europe-centric; therefore, clients in other regions may not see the same level of support or engagement. Also, some product capabilities and vertically oriented sales are only available in France.

- Orange Business's CBCI offering lags others in this research in terms of number of countries and number of direct unique CSPs per region.

- Orange Business only offers on-network, last-mile connectivity in France and select Orange affiliate countries (e.g., Poland, Spain), and relies heavily on colocation facilities outside France.

RIEDEL Networks

RIEDEL Networks is a Niche Player in this Magic Quadrant. Based in Butzbach, Germany, RIEDEL Networks is a privately held global service provider focusing on midsize multinational enterprises, and the media and events sector.

RIEDEL Networks' MPLS network reaches 21 countries, while its internet backbone reaches 22 countries. All of its POPs are colocated in third-party or colocation facilities. It offers direct cloud connectivity to 13 major cloud providers in 13 cities outside of Germany, with additional reach to four cities enabled through exchanges, though no multicloud is supported. RIEDEL Networks offers managed SD-WAN services based on Cisco Catalyst/Meraki, with 26 network-based gateways predominantly in Europe, which all reside in third-party facilities. Its SASE strategy is available in 23 countries via 45 Cisco Umbrella nodes, and no dual-vendor SASE option is available. RIEDEL has withdrawn its NFV and uCPE offers, and lacks any network-on-demand capabilities.

RIEDEL Networks is notably small in terms of geographic reach compared to all providers in this research. Midsize multinational enterprises that require Cisco-based solutions for global managed network services, predominantly in Europe, the U.S. and APAC, should consider RIEDEL. The vendor has very limited services in Latin America and Middle East Africa.

Strengths

- RIEDEL Networks' SD-WAN and network offer is 100% Cisco-based, demonstrating a laser-focused strategy on one vendor with streamlined interoperability, an integrated overlay and security via a single CPE device.
- RIEDEL Networks has tailored offerings and a strong track record delivering services to the midsize enterprise, and media and events vertical.
- RIEDEL Networks has more than 350 partners for local access and internet access, including 4G/5G mobile access, via its own gateways, and LEO with 24/7 proactive monitoring through Thousand Eyes.

Cautions

- RIEDEL does not provide any on-network, last-mile connectivity; therefore, it relies on third-party access for all customer sites.
- RIEDEL Networks lacks a network-based NFV and a network-on-demand offering, and its SLAs are weak in comparison to other providers in this research.
- RIEDEL's portal lags competitors and is effectively a white label of Cisco Meraki's portal, with no differentiation from what a do-it-yourself SD-WAN customer would use.

Tata Communications

Tata Communications is a Leader in this Magic Quadrant. Headquartered in Mumbai, India, Tata Communications is a global provider of enterprise network services.

Tata Communications' MPLS network covers 65 countries, and its internet backbone reaches 42 countries. It offers direct cloud connectivity to 11 cloud providers in 13 cities outside of its home country of India, with additional reach enabled through exchanges. It offers managed SD-WAN based on vendor partners Versa Networks, Cisco Catalyst/Meraki, HPE and Fortinet. It has 68 Versa, 47 Cisco Catalyst and 56 Fortinet SD-WAN gateways, which is unchanged from the prior year. In addition, Tata Communications launched SDWAN as a Service (SDWANaaS), which offers SD-WAN with a "cloudlike" consumption model, automation-driven service activation and flexible contract periods.

Tata Communications' managed SASE offerings, available in 87 countries, include single-vendor options with vendor partners Versa, Fortinet, Palo Alto Networks, Zscaler and Netskope. It also offers dual-vendor SASE options with Zscaler, Netskope and Palo Alto SSE. It offers NFV services from uCPE devices and 99 NFV service nodes.

Client feedback for Tata Communications was among the most favorable. All enterprises, especially those requiring extensive coverage in Africa, the Middle East and Asia/Pacific, should consider Tata Communications for their global WAN needs.

Strengths

- Tata Communications' managed SD-WAN lineup is among the strongest in this research, consisting of five vendors with good distribution of POPs across all geographies.
- Tata Communications' managed SASE offerings also are comparatively strong, with five vendors and SASE nodes in 89 countries spread across all geographies.
- Tata Communications' network on demand (NoD) service offers more options than most providers in this research, including recently added multicloud connectivity and a zero-based bandwidth option for temporary WAN links.

Cautions

- Outside of APAC, Tata Communications has limited market visibility. Based on Gartner inquiry calls, it is rarely considered by enterprise customers for global WAN services outside the Asia/Pacific market.
- Tata's cloud service availability by country is lower than average compared to other providers in this research. It has no cloud POPs in MEA and only one direct connection in Latin America. In addition, nearly half of its 37 cloud POPs — including all of its China POPs — are via exchange only.
- Tata Communications' management portal lags other global WAN service providers in this research, requiring customers to toggle between individual service dashboards.

Verizon

Verizon is a Leader in this Magic Quadrant. Based in New York City, it is a major provider of U.S. fixed and mobile networking and global enterprise network services.

Verizon's MPLS network reaches 55 countries, while its internet backbone spans 34 countries. In addition to offering CBCI through its Secure Cloud Interconnect (SCI) solution via exchanges, Verizon supports direct connections to eight CSPs in 13 cities outside the U.S. It offers managed SD-WAN from Versa Networks, Cisco, HPE, Broadcom (VMware) and Fortinet, with strong SD-WAN gateway presence from three vendors. In addition to SD-WAN, Verizon supports Palo Alto Networks' SASE, offering SWG, next-generation firewall (NGFW), CASB and ZTNA in 14 countries. Excluding NaaS, it offers no stand-alone, Verizon-specific, service-specific SASE SLAs.

Verizon offers NFV services with a broad portfolio of VNFs and edge compute capabilities from a range of uCPE devices and 32 NFV service nodes. It also offers network on demand.

Multinational clients with a presence predominantly in North America and Europe should consider Verizon for their networking requirements.

Strengths

- Verizon has above-average service-level availability in MPLS, SD-WAN, nodal NFV and access aggregation.
- Following critical market trends, Verizon is investing in multicloud enablement, zero trust, and networking and security convergence. Its product strategy also includes automation and APIs, including AIOps capability, AI-driven CX and UX enhancements, international FWA with Blue Wireless, and NaaS.
- Verizon continues messaging around enterprise intelligence and account-based marketing (holding virtual roundtables and other targeted events). Verizon remains focused on customer retention plans, specifically on targeting important personas outside of I&O/networking for more tailored discussions and compelling proposals.

Cautions

- Despite a decreased international internet presence, Verizon's geographic expansion plans are far less clear and less aggressive compared to other providers.
- Verizon's SLAs on CBCI and SD-WAN lag other providers in this Magic Quadrant. Moreover, it offers no service-specific SLAs on network on demand, SASE or enhanced internet, and it provided no specific plans to improve sustainability efforts.
- Verizon's strategy remains both U.S.- and mobile-centric, resulting in its network services efforts being highly product-based, and less market-based or focused on global solutions. In fact, a low proportion of its salesforce is serving clients' non-U.S. needs.

Vodafone

Vodafone is a Leader in this Magic Quadrant. Headquartered in Newbury, U.K., it is a provider of fixed and mobile network services in the U.S., Europe, the Middle East, Africa and Asia/Pacific. Vodafone Business is responsible for providing global enterprise networks and associated services.

Vodafone's MPLS network spans 76 countries, while its internet backbone covers 33 countries. It primarily offers direct cloud connectivity to seven major cloud providers in 29 cities outside of the U.K. It offers managed SD-WAN services based on Cisco Catalyst/Meraki, Fortinet, Juniper and Broadcom (VMware), with 31 network-based gateways for Juniper, 74 for Broadcom (VMware), four for Fortinet and six for Meraki. Vodafone offers SASE in 49 countries, with single-vendor options via Broadcom (VMware), Cisco and Fortinet plus multivendor options with Zscaler and Palo Alto Networks paired with Symantec, Check Point Software Technologies or Fortinet SSE. Vodafone offers NFV with a broad portfolio of VNFs delivered from uCPE devices and 82 NFV service nodes.

While Vodafone focuses primarily on direct sales to European enterprises with large international footprints, enterprises with global networks that require strong coverage in Europe, the Middle East, Africa or Asia/Pacific should consider it.

Strengths

- Vodafone has begun the rollout of its new converged Super POP infrastructure that supports self-service delivery through enhanced automation and orchestration, multicloud networking, and consumption-based as-a-service models.
- Vodafone's network MPLS POP coverage is far-reaching across the Middle East, Africa and APAC, with domestic operations in select countries in each region.
- Vodafone has reinforced its managed services, user portal and API capabilities across many of its products and operations. It aims to provide more consistent user experiences in the digital service interfaces across WAN services, mobility, cloud, edge, security and Internet of Things (IoT) products.

Cautions

- Vodafone's automation capabilities for NoD offerings continue to lag offerings from other providers in this research.
- Vodafone has embarked on a business restructuring process that affects several domestic operations and group capabilities with layoffs, spinoffs, mergers and divestitures. As a result, certain services may be adversely impacted.
- Customers should be aware of the progress in Vodafone's Super POP rollout and remain cautious about the possibility of service disruptions in migrating to Vodafone's new converged backbone network.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

RIEDEL Networks was added this year to the Magic Quadrant.

Dropped

Lumen Technologies no longer met the inclusion criteria and has been dropped from this Magic Quadrant (see **Announced Corporate Transaction Notification: Lumen Technologies, Magic Quadrant for Network Services, Global**).

Inclusion and Exclusion Criteria

To qualify for inclusion in this Magic Quadrant and the Critical Capabilities for Global WAN Services, providers must:

- Sell MPLS and internet core services to enterprise customers globally:
  - Have a minimum of five MPLS POPs in each of the following geographic regions: North America, Europe and Asia/Pacific.
  - Have a minimum of 10 internet POPs in each of the following geographic regions: North America, Europe and Asia/Pacific.
  - Operate their own global internet core backbone with required interregional POPs in all three major regions.
  - Offer broadband access services (minimum 100/10 Megabits per second [Mbps]) that can be either inherent to the provider’s core WAN offerings or offered in a resale model in all three major regions.
  - Provide 4G/LTE and 5G cellular WAN access connectivity in each region (North America, Europe and Asia/Pacific) either directly or through partners for a comprehensive offering.
- Offer managed SD-WAN services globally with a minimum of five SD-WAN gateways in each of the following geographic regions: North America, Europe and Asia/Pacific, either owned or partner nodes.
- Have a minimum of five SASE nodes in North America, Europe and Asia/Pacific, self-owned, via partner SASE services or resold third-party SSE services.
- Have a minimum of five carrier-based cloud interconnect nodes to AWS, Microsoft and Google (minimum three leading cloud providers) in three regions (direct or via exchange).

- Have a minimum of five access aggregation nodes in all three regions, which must include fiber, DIA, DSL/wireline broadband and optional FWA 4G, 5G and LEO/GEO services based on owned or third-party access services.
- Providers must provide last-mile connectivity in at least the three major regions and operate WAN services on their own global backbone.
- Demonstrate having signed at least one enterprise contract for global WAN services in each major region (North America, Europe and Asia/Pacific) as a net new account with global locations.

Evaluation Criteria

Ability to Execute

Gartner analysts evaluate WAN service providers on the breadth of their network services portfolio in terms of features, quality and processes to deliver the services. These criteria enable service providers' performance to be competitive, efficient and effective, and to improve revenue, retention and reputation in Gartner's view of the market.

Product/Service: Gartner evaluates the ability to offer a broad range of network services, including WAN, managed SD-WAN, cloud connectivity, network on demand, and uCPE/NFV/SASE services. We consider offering capabilities and differentiation across service breadth, vendor support, global consistency and customer experience categories.

Overall Viability: Viability includes an assessment of the organization's overall financial health, as well as its financial and practical success and the likelihood that the individual business unit will continue investing in the overall portfolio of services.

Sales Execution/Pricing: We evaluate the organization's capabilities in all presales activities and the structures that support them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Track Record: We look at the vendor's ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness to changing market demands.

Marketing Execution: We evaluate the clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand, increase awareness of offers and establish a positive identification in the minds of customers. This "mind share" can be driven by publicity, promotions, thought leadership, social media, referrals and sales activities.

Customer Experience: How do customers view this provider and the quality of customer experience delivered? The key components in this category are the provider's portal and service support responsiveness for enterprise customers, regardless of size or industry.

Operations: This criterion refers to the ability of the service provider to meet delivery commitments. Factors include quality of the organizational structure, skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently.

Table 1: Ability to Execute Evaluation Criteria

Evaluation Criteria	*Weighting*
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	High
Market Responsiveness/Record	High
Marketing Execution	Medium
Customer Experience	High
Operations	Medium

Source: Gartner (April 2024)

Completeness of Vision

Gartner analysts evaluate vendors on their ability to convincingly articulate logical statements. This includes current and future market direction, innovation, customer needs and competitive forces, and how well they map to Gartner's view of the market.

Market Understanding: Can the vendor drive/influence the direction of the market through development of roadmaps and offerings? Are providers focusing on building their core competencies with strategic enhancements, or are they investing in random technologies?

Marketing Strategy: Do the vendor's messaging and marketing campaigns effectively communicate how it differentiates in functionality and value proposition? Do the issues

communicated meet the trends in the market and the needs of end users?

Sales Strategy: Does the vendor have a sound sales strategy, including direct and indirect sales, marketing, and communications? Does the vendor have partners that extend the scope and depth of market reach, expertise, technologies, services and its customer base?

Offering (Product) Strategy: Do the current and planned future offerings meet buyers' needs now with differentiated functionality, and how will the vendor do so in the future? Is the provider building additional features and expanding the offers that buyers are seeking or is it lagging ? Is it anticipating the issues that the buyer will face and allocating resources to address them?

Business Model: Do the design, logic and execution of the organization's business proposition demonstrate the ability to achieve continued success. Does the business model meet the needs of the target market and enable the provider to grow?

Vertical/Industry Strategy: Do the provider's strategy, direct resources, skills and offerings meet the needs of market segments, including vertical industries? In the network services market, can the vendor differentiate itself with services that are specifically developed for the unique requirements of targeted verticals, such as healthcare, logistics, manufacturing, retail, hospitality and others?

Innovation: What has the provider done to address the future requirements of network services, including the need for product breadth, additional vendor support, consistent portals and ubiquitous offerings globally to solve clients' business problems? Has the vendor successfully differentiated the current and future product lines to address customer requirements, now and two to five years out?

Geographic Strategy: Does the provider's strategy to direct resources, skills and offerings meet the specific needs of geographies outside the "home" or native geography? Can the provider meet the needs of global enterprises for product and support?

Table 2: Completeness of Vision Evaluation Criteria

Evaluation Criteria ↓	***Weighting*** ↓
Market Understanding	High
Marketing Strategy	Medium
Sales Strategy	Medium

Evaluation Criteria ↓	*Weighting* ↓
Offering (Product) Strategy	High
Business Model	Medium
Vertical/Industry Strategy	Medium
Innovation	High
Geographic Strategy	Medium

Source: Gartner (April 2024)

Quadrant Descriptions

Leaders

Providers in the Leaders quadrant are performing well and maintaining a stable organization, with a clear vision of market direction. They deliver comprehensive portfolios of quality network services across the broadest geographies. They address the global networking needs of a broad range of enterprises in terms of size, geographic distribution and vertical industry. Leaders shape the direction of the market by extending their coverage, developing new class-leading capabilities and commercial models, and deploying them at scale.

Challengers

Challengers are strong in execution, but narrower than Leaders in their vision for taking market leadership. They focus more on established network services and geographies, and are typically followers of the market innovations created by Leaders and Visionaries.

Visionaries

Visionaries have market-leading plans for the future in terms of geographic and/or network service innovation. However, their current capabilities are not class-leading in terms of scope and/or quality.

Niche Players

Providers in the Niche Players quadrant may focus on a particular segment of the market, as defined by characteristics such as size, vertical sector, geographic coverage or technology, and they may be strong providers for those requirements. However, they lack the capabilities to address the needs of the broader range of enterprises or the vision to significantly alter their position in the market.

Context

A reliable, agile, secure and high-performing WAN network is critical to support enterprise business operations. As a result, enterprises find it challenging to design and operate their networks to support dynamic business requirements, including hybrid work, and accelerating digital and cloud transformations. Not surprisingly, digital business initiatives place increasing demands on the enterprise network to assure reliability and performance, which results in growth of bandwidth demands between 20% and 30% annually (see Note 2).

Managed SD-WAN has become the predominant offering for new network deployments and major refreshes. Given continued enterprise concerns about security, service providers also are adding managed SASE offerings that integrate SD-WAN with security packages including a firewall, CASB, SWG and ZTNA. At the same time, the virtualization of network edge functions, using nodal NFV and uCPE/VNFs, is an additional option but has diminished in importance based on client feedback.

Enterprises with global networking needs can choose from a wide range of providers, and elect to use one or more providers across multiple regions. This typically results in better price/performance versus a single-source approach. Sourcing options include managed, co-managed or unmanaged network services, with the growing option of sourcing the underlay transport services separately from overlay SD-WAN and security. This type of strategy supports the needs of clients that prefer regionally sourced WAN transport managed by a global overlay provider.

Related to pricing, competition continues to drive down unit prices for global WAN services generally speaking and outside where legacy access is still being used (time division multiplexing). However, in a market in which there are no meaningful price lists, enterprises still need to use competitive procurement practices and strong negotiation tactics to obtain the best prices, competitive SLAs and optimal contractual flexibility.

Market Overview

Gartner forecasts that the market for enterprise fixed data networking services in 2024 will exceed $136.7 billion, an increase of approximately 1.7% from 2023 for a 1.5% compound annual growth rate (CAGR) from 2022 through 2027. [1] Although the number of global NSPs included in this research has remained constant, many more providers are operating in the broader market, including aggregators and smaller or regional providers. The market also includes pure-play managed service providers that own little or no network infrastructure but resell network services to enterprise clients.

Underlay Network Transport Trends

WAN transport services (frequently called “underlay” services) continue to rapidly change. MPLS — the mainstay of enterprise networks for over two decades — is being augmented and often displaced by internet transport services. While MPLS offers high availability and stable performance benefits, depending on the geography and port size, it is priced at a premium compared to comparable dedicated internet access services. MPLS is often preferred as the primary link for critical locations (such as between a traditional data center and cloud provider), and in places where internet performance is poor or variable. The net result is network designs with a smaller number of higher-capacity MPLS lines and point-to-point Ethernet connectivity.

In contrast, internet connectivity allows direct access to SaaS and other internet-centric sites, with options including DIA, wireline, and 4G/5G wireless broadband and Ethernet. Another benefit is sourcing choice: DIA can be sourced from multiple providers, while MPLS still typically must be sourced from a single provider. Gartner estimates that enterprise internet services spend will grow globally at a 3.0% five-year CAGR in constant U.S. dollars from 2022 through 2027. [1]

However, internet connectivity also brings additional challenges not found in private MPLS networks, including the risk of suboptimal routing and congestion as the traffic traverses multiple ISPs. There are several ways of overcoming this, including:

- Sourcing all internet services from a single provider
- Sourcing from federations of ISPs that offer controlled routing among their members
- Network-based SD-WAN gateways terminating the SD-WAN tunnels and passing the traffic over the provider’s backbone
- Enhanced internet services that offer optimized routing
- Evaluating service providers to ensure their internet POP footprint matches local access needs

Providers that have developed a differentiated, enhanced internet approach include BT, Comcast Business, Deutsche Telekom, NTT, Orange Business, Tata Communications and Vodafone.

Increasingly, more NSPs are relying on colocation or third-party facilities (e.g., Equinix, Digital Realty) to host their POPs instead of owning or leasing facilities, which is costly; however, Gartner believes that owning physical assets demonstrates an investment and commitment to a particular geography. The colocation facility may have diverse physical connections. However, it could be argued that with a hosted POP approach, NSPs can increase the number of POPs (closer together) and potentially reduce the impact of a failover that routes the traffic through another POP. Determining where the POPs reside should be part of a provider evaluation, as this approach can increase the risk of issues, delays and responsibility diversion resulting from additional party involvement. In fact, several providers’ POPs and gateways are entirely colocated in third-party locations outside their home regions or countries, which should be noted or at least understood the degree to which this is the case. In addition, Gartner observed that half of the providers included in this research fully acknowledged that they either had no last-mile, on-network connectivity of their own, or it was limited to their own home country. These discussion points are

worth raising in the RFP or for any proposal under consideration as to who owns the last-mile local access and if there are impacts to their SLAs as a result of off-network access.

In a trend we have seen developing over the last 12 months, many providers have begun adopting artificial intelligence for IT operations (AIOps) and network automation for service onboarding and customer experience improvements. This is primarily for Days 0 and 1; comparably few have yet employed AI for Day 2 activities to provide predictive analytics for service improvement and reduce downtime (see **Predicts 2024: Generative AI Will Transform IT Infrastructure and Operations**).

Enterprises' rapid adoption of cloud services is foundational to WAN architecture transformation. In response, global NSPs have expanded their cloud connectivity offerings (see **How to Optimize Network Connectivity Into Public Cloud Providers**). All providers in this Magic Quadrant offer CBCI service, directly from their MPLS and Ethernet networks to the top three cloud service providers (AWS, Microsoft Azure and Google Cloud) as well as through third-party exchanges for greater reach and/or location diversity. The key differentiators are the number of individual cloud providers and cities, and the ability to add virtualized services (such as security) into the cloud connection points. Gartner estimates that enterprise spend on cloud connect services will grow globally at a 21.7% five-year CAGR in constant U.S. dollars from 2022 through 2027. [1] These CBCI services typically allow for capacity adjustments and, in some cases, add new cloud endpoints on demand via a portal and/or API control. CBCI also can be tied to network-on-demand services that allow customers to change bandwidth and make some policy modifications for individual MPLS, DIA or Ethernet connections.

Overlay Network Trends

New global WAN proposals are almost exclusively based on managed SD-WAN services, either proposing a hybrid mix of MPLS and internet, or all-internet-based underlay links. Global NSPs commonly offer a portfolio of three to six SD-WAN vendors, following client vendor preferences. In fact, Gartner requires that providers in this report offer strong integration with at least three SD-WAN vendors and demonstrate a strong global customer base. Providers that support many SD-WAN vendors (eight or more) may have limited integration with those vendors; consequently, they pose higher risks to the enterprise.

Many providers offer network-based SD-WAN gateways, allowing for easier SD-WAN migration, improved scalability and integration to third parties like CSPs. Such gateways allow the network to combine internet access with the provider's higher-quality, long-haul backbones, greatly improving reliability and performance. A similar outcome can be achieved by using stand-alone enhanced internet backbone services on ISP federations. Managed SD-WAN services typically offer the option of local internet access from every site, which is especially useful for access to SaaS applications, such as Microsoft Office 365. Perimeter security can be provided on-site or as a cloud-based service, and is increasingly integrated as part of SASE services.

Global WAN service providers are continuing to roll out managed SASE offerings as either best-of-breed dual-vendor or single-vendor solutions. This can eliminate the need for an enterprise to

service chain and orchestrate SD-WAN with network security functions, thereby simplifying management and, usually, offering better overall performance due to less complexity. However, NSP SASE-specific SLAs are embryonic at present, so, at this time, clients that engage with NSPs for this service are doing so for convenience, not for superior solutions.

Network functions such as edge routing, SD-WAN, security, WAN optimization and visibility can be delivered as on-site appliances, but they also can be offered as a uCPE/VNF. uCPE employs X-86 whiteboxes, which run multiple vendors' software instances, such as Broadcom (VMware) routing with Palo Alto Firewall. Given the level of feature interaction between multiple software vendors, this option is most often offered as a managed service. Some providers allow customers to run their own software, including edge compute applications, on SD-WAN appliances and uCPE. In contrast, POP-based VNFs run in carrier nodes, making it easier to rapidly change the functions offered, and they are usually consumed as a service with a per-function monthly subscription fee. Popular VNF examples include unified communications (UC) and performance monitoring.

Automation and Operational Trends

The level of complexity for global WANs continues to grow, especially when transport is a mix of MPLS and internet with cloud endpoints and a variety of backbone options plus SD-WAN and NFV technologies. In addition, the internet, especially using broadband or cellular access, is an inherently less predictable service than MPLS or Ethernet. Visibility capabilities — sometimes referred to as performance analytics — can help by enabling enterprises to see the actual performance of their connections and applications. Provider enhancements have focused on performance reporting tools and portals, enabling the enterprise with improved visibility at the network application layers. However, enhanced visibility does not quickly translate into improved performance SLAs, which continue to lag both enterprise expectations and requirements. To improve service responsiveness in an increasingly complex network, NSPs seek to increase use of AI/ML across the life cycle in design, ordering, provisioning, monitoring and billing.

NSPs remain focused on improving their installation and service initiation lead times, although they are constrained by third-party/local access providers' lead times. Cellular service data speeds are increasing, making it more useful as an interim rapid deployment solution while awaiting permanent, fixed connectivity. In addition, cellular connectivity provides a truly diverse backup option. However, the hype around 5G cellular as a fixed connectivity replacement should be treated with caution, as both SLAs and coverage gaps continue.

Sourcing Trends

Providers are increasingly focused on providing the managed network service "overlay" platform, typically using SD-WAN and, increasingly SASE, which can be delivered from cloud-native platforms or (less frequently) using NFV/uCPE. As noted, providers are more willing to support "bring your own access" and other flexible sourcing approaches for the "underlay" network transport components.

However, the majority of enterprises still buy most of their underlay services from their overlay provider, especially when using a mix of MPLS and internet access. Global WAN service providers

are moving toward software-based services that emphasize visibility and self-service via portals and APIs. In addition, some providers tout newer NaaS offerings; to date, these largely reflect the capabilities already supplied by managed network services. These are not a-la-carte services. Since they are highly bundled, NaaS currently only appeals to a small subset of enterprise customers.

We continue to see incremental improvements in provider contracts, especially around the right to cancel the contract in the event of chronic breach, on-time delivery, proactive notification and completing timely change requests. Willingness to negotiate terms and conditions can often set a provider apart during the selection process.

Managed Services Trends

Most NSPs deliver global WANs as a managed service, with the on-site devices, such as routers and security appliances, provided and managed by the service provider. Transport links are usually sourced from the NSP, which has complete operational responsibility. The U.S. market remains unique in that although many U.S.-headquartered multinationals rely on managed network services, a significant number still manage their networks in-house and own their CPE, with network underlay sourced from global providers.

At the same time, more WANs are moving to a co-managed reality because more network functions — such as SD-WAN application policies, security policies and NoD bandwidth — are controllable by the enterprise via the provider's portals and APIs. A benefit of this approach is it opens the door for co-managed service options, allowing enterprises to oversee aspects of the network, such as application and security policies, to meet specific business requirements. In this case, responsibilities for various network management functions are divided between the provider and the enterprise. This is especially true when network perimeter security functions are integrated into the SD-WAN solution (SASE), where a separate organization will often control the security policies and actions.

Evidence

[1] Market size forecasts are from Gartner's **Forecast: Communications Services, Worldwide, 2021-2027, 4Q23 Update**, which published in December, 2023.

Gartner developed this research based on the following sources of information:

- Gartner client inquiry data on network services that was collected over a 12-month period. (Inquiries with Gartner analysts about network services remains steady and have slightly increased every quarter by at least 10% for the last four quarters. This includes more than 3,600 Gartner client inquiries on the topic of global WAN services.)
- Analyst-reviewed Gartner Peer Insights data for this market.
- Provider responses to detailed questionnaires, as well as a demo of their portals.
- Periodic provider briefings.

- Generally available information, news and data in financial and industry publications.

Note 1: Members of the G-20

The members of the G-20 are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the U.K. and the U.S., as well as the European Union, represented by the rotating council presidency and the European Central Bank. Source: G-7 and G-20, U.S. Department of the Treasury.

Note 2: Internet Traffic and Capacity

Global internet bandwidth rose by 23% in 2023, continuing to fall from the COVID-19 pandemic-generated bump of 2020. Total international internet bandwidth now stands at 1,217 Tbps, representing a four-year CAGR of 28%. Source: Total International Internet Bandwidth Now Stands at 1,217 Tbps, TeleGeography.

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.