ISG Provider Lens™

Network– Software Defined Solutions and Services

A research report comparing provider strengths, challenges and competitive differentiators

Table of Contents 🏠

This ISG Provider Lens™ study, Network – Software-Defined Solutions and Services 2023, examines various global network offerings related to enterprise networks and software-defined networking. These include software-defined wide area networks (SD-WAN), comprising managed SD-WAN services, consulting and advisory, and implementation support. Enterprise networks technology and services supply – concentrating on providers of all technology and services related to networks that enterprises implement and operate themselves (including full and partial SD-WAN solutions) – covers all areas from the network core to edge-branch technology and services. The study also looks at edge technologies and services, such as IoT, universal/virtual customer premises equipment (u/vCPE) and software-defined local area network (SD-LAN), including those delivered through mobile and 4G/5G technologies and the service offerings relat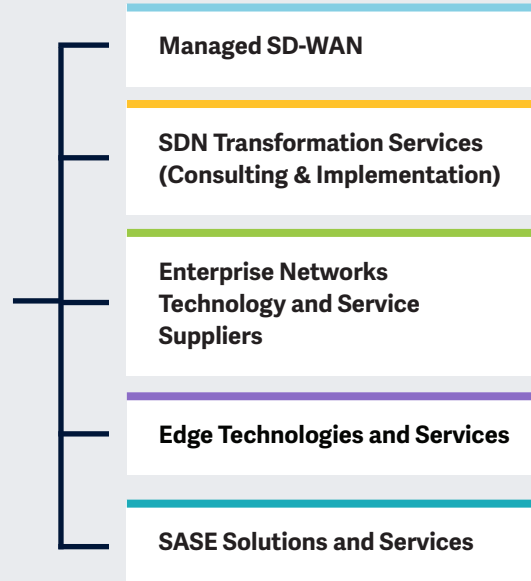ed to these segments. In addition, the study examines secure access service edge (SASE), which is an overarching, secure and fully integrated network environment for businesses.

ISG sets out to deliver a comprehensive research program with a clear and definitive evaluation criterion, covering the developments and deliverables of service providers and equipment suppliers in this dynamic marketplace. This study accounts for changing market requirements and provides a complete market overview of the segments, along with concrete decision-making support to help user organizations evaluate and assess the offerings and performance of providers.

Analysis of enterprise Networks Solutions and Services 2023

Simplified Illustration Source: ISG 2023

- **Managed SD-WAN**
- **SDN Transformation Services (Consulting & Implementation)**
- **Enterprise Networks Technology and Service Suppliers**
- **Edge Technologies and Services**
- **SASE Solutions and Services**

The ISG Provider Lens™ study, Network – Software-Defined Solutions and Services 2023, offers the following to business and IT decision makers:

- Transparency over the strengths and weaknesses of relevant providers.

- Differentiated positioning of providers by segments based on their competitive strengths and portfolio attractiveness.

- Focus on different markets, including Germany, the U.K. and the U.S.

Our study serves as an important decision-making basis for positioning, key relationships and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their current vendor relationships and potential engagements.

Managed SD-WAN

Definition

This quadrant examines the providers of enterprise WAN (primarily enterprise SD-WAN or hybrid MPLS/IP WAN) that deliver managed solutions and services. These include additional associated services such as identity and access management (IAM), provided as wrap-around services directed toward streamlining enterprises' network operations. These may include new installations, replacement or upgrade installations, or hybrid cloud pathway installations accounted as networks.

SD-WAN offers the benefits of software-defined technology over traditional hardware-based networking. It is an overlay architecture with a networking foundation that is easily manageable compared to legacy WANs, essentially moving the control layer to the cloud and centralizing and simplifying network management. This overlay design abstracts software from hardware,

enabling network virtualization and making the network more flexible. An SD-WAN architecture reduces recurring network costs, offers network-wide control and visibility, and simplifies the technology with zero-touch deployment and centralized management. The key aspect of an SD-WAN architecture is that it can communicate with all network endpoints without the need for external mechanisms or additional protocols. Suppliers have been increasingly active as managed service providers, offering complete managed SD-WAN solutions to enterprises (including hybrid MPLS/IP or MPLS/SDN solutions) as well as white-label products to telco providers or integrators as part of their broader strategic implementations.

Eligibility Criteria

1. Scope of product/service managed WAN **portfolio**

2. **Ability to deliver and manage** all hardware and software aspects

3. **Ability to rearchitect** (as required) the existing MPLS-based WANs into hybrid-WAN systems

4. **Management capability** for the needed orchestration and control of the overall architecture

5. **Flexibility** and ease in introducing new services and deployments

6. **Stability** and roadmap planning

7. **Reference** customer/site volume **in deployment**

8. **Competitiveness** of offerings and types of commercial terms

SDN Transformation Services (Consulting & Implementation)

Definition

This quadrant analyzes providers of advisory or consulting and services associated with delivering software-defined networking and SD-WAN to enterprises, from initial advisor consulting to services delivery and rollout.

Modern businesses require more agility, flexibility, automation and security across delivery areas and business domains including private, public, hybrid and multi-cloud networking; mobile application usage in the workplace; IoT; Industry 4.0; infrastructure as a service (XaaS); and intent-based AI and ML networking solutions requiring a flexible network environment that can accommodate changes quickly with minimum human intervention. SD networking provides many of these benefits compared with traditional hardware-based networking and is closely related to network function virtualization (NFV), cloudification

strategies and digital transformation undertakings. However, it brings challenges in managing legacy and transformed environments and highlights the lack of skilled programmers or NetOps in some enterprises.

Suppliers in this area are increasingly active as advisors or consultants for implementation, offering complete or partial solutions or programming support to enterprises. They may also act as brokers and project managers to ensure combined coalition deliveries as planned. Consulting companies, prominent vendors and managed network services providers are also actively involved in offering SD-WAN packages in this area, independently or as a part of partnerships or consortium deals.

Eligibility Criteria

1. **Ability to provide consultation** for strategizing right through to deploying technology, including support in integration and implementation

2. **Understanding of the overall market** and contributions to the same

3. **Scope of partnerships** and offerings and management capability for the needed orchestration within a customer project

4. **Stability** and roadmap planning capabilities

5. **Reference customer or solutions post-pilot** or commercial deployment

6. **Competitiveness** of offering and types of commercial terms

Enterprise Networks Technology and Service Suppliers

Definition

This quadrant analyzes providers of software-defined networking from core to edge technology and services, purchased by either service providers for specific projects or enterprises for their operations or equipment delivery. This includes SD-WAN implementations or partial implementations, which do not include managed services. It also includes specific OSS/BSS solutions, SD-LAN, 4G/5G mobility-targeted services or solutions, applications, management systems and methods, including software-defined networks' end-device control and management that can be integrated into an enterprise's SD-WAN strategy from the primary enterprise location to branches or remote office locations.

SD-WAN is virtual and allows enterprises to bundle multiple WAN technologies and equip themselves with the required bandwidth. It determines the transmission path for data packets and the medium to be used; if a connection has excess load, an alternate path is automatically taken. The virtual connections consist of multiple paths that are used simultaneously, along with core network functionality. One of the key aspects of the architecture is that it can communicate with all network endpoints, allowing ease in branch and remote setup and management.

Suppliers have been increasingly active in selling SD-WAN solutions to enterprises for their DIY (non-managed) implementations and are partnering with licensed telcos or service providers in this space. In addition, many suppliers focus on specific discrete parts of the overall network (for example, OSS/BSS) and supply just these components or similar discrete, partial solutions.

Eligibility Criteria

1. Product **portfolio coverage**, focus areas, completeness of modular delivery and integration with broader solutions

2. **Ability to deliver** equipment and service to customers, including requisite training

3. Ability to deliver **value-added services** within a modern enterprise environment, using software-defined methods

4. Understanding of the **overall market**, technology environment and evolutions and **contributions** to the same

5. Scope of partnerships and **offerings** and management capability of a customer project

6. Openness of offerings to **avoid vendor lock-in**

7. Reference customers or **solutions** post POC or pilot **in commercial deployment**

8. Competitiveness of offerings and types of **commercial terms** such as shared risk models

Edge Technologies and Services

Definition

This quadrant analyzes vendors that deliver technologies across hardware and software, management or reporting tools, and applications and services associated with edge network technology to enterprises.

Edge technologies, services and computing are current trends in IoT and IIoT. With the localized processing of data, security and privacy have improved as any breach can be managed locally and not passed on to the WAN or cloud and thus back to the central enterprise to defend. In IoT edge computing and networking, data from various connected devices in the IoT ecosystem is typically collected in a local device, analyzed on the network, and then transferred to the central data center or cloud. As the number of connected devices has increased exponentially, the volume of data generated is multifold. Thus, interim processing is required to

ensure cost reduction and increased efficiency. This, in turn, places high importance on efficient and software-driven edge capability networks and connectivity capabilities.

Edge components can be managed in the same manner as core and SD-WAN components. Software-defined capabilities include branch and edge functionalities, along with all customer premises equipment (uCPE or vCPE) and associated software-defined mobile networks (SDMNs) and SD-LANs that include both wireless (SD-WLAN) and mobile (SD-WMLAN), as well as IoT or IIoT sensors and devices or control/security devices.

Eligibility Criteria

1. Product portfolio coverage, focus areas, and **completeness of modular or area solutions**, together with integration into broader solutions

2. Ability to **deliver requisite training** and education to clients, with POC or studio

3. Understanding of the overall market, technology environment and evolutions and contributions to the same, together with **industry-specific knowledge and experience**

4. Scope of partnerships and offerings and **management capability of disparate** **providers and solutions** within a customer project

5. **Reference customers** or solutions in POC or pilot deployments or commercial deployments

6. Competitiveness of offerings and **types of commercial terms**

SASE Solutions and Services

Definition

This quadrant analyzes Secure Access Service Edge (SASE) solutions, which are offered to enterprises as overarching integrated networks and security solutions from the enterprise core to the edge. These include solutions moving into pilots and solutions currently commercially deployed into production.

Enterprises are increasingly focused on migrating their ICT and network operations to the cloud while enhancing security in all touchpoint areas. Software-defined networks have proven to be efficient in assisting with this by reducing complexity and facilitating risk-reduced migration to single or multi-cloud environments for enterprises. Network-integrated security has been evolving continuously, with the inclusion of components such as proactive detection and response solutions, zero-trust networking, and identity-based security

and authentication. Many providers supply a combination of identity-based authentication, SASE and network security to create a holistic, secure-by-design approach for the network of the future.

The major components of SASE include SD-WAN, cloud access security broker (CASB), next-generation firewall (NGFW) and firewall-as-a-service (FWaaS), zero-trust network access (ZTNA) and secure web gateways (SWG). These encompass secure and integrated access from the data center (which may include network function virtualization [NFV]) to branch or edge, including SD-LAN or its wireless or mobile variant.

Suppliers in this area have been increasingly active as advisors or consultants for implementation, supplying complete POC, pilots and solutions to enterprises. Prominent vendors and managed network service providers are also actively involved in offering SASE.

Eligibility Criteria

1. Product **portfolio coverage**, focus areas, **completeness of solutions**, fully integrated broader solutions linking to data centers or other enterprise IT applications and systems

2. Membership or affiliation (including inputs) with **global SASE technical and trade groups**

3. Ability to enable clients to **reuse the existing network** and ICT solutions, instead of just rip and replace

4. Ability to deliver training and **provide both POC or studio simulations and testing** for clients

5. **Industry-specific knowledge** and experience mapped to the client type

6. Expansiveness of offerings and partnerships and offerings plus management capability for the needed **orchestration within a customer project**

7. **Reference customers or solutions** in pilot moving into commercial deployment

8. **Competitiveness of offerings** and types of commercial terms

Quadrants By Region

As part of this ISG Provider Lens™ quadrant study, we are introducing the following five quadrants on Network – Software-Defined Solutions and Services 2023.

Quadrants	Germany	U.K.	U.S.
Managed SD-WAN	✔	✔	✔
SDN Transformation Services (Consulting & Implementation)	✔	✔	✔
Enterprise Networks Technology and Service Suppliers	✔	✔	✔
Edge Technologies and Services	✔	✔	✔
SASE Solutions and Services	✔	✔	✔

Schedule

The research phase falls in the period between January and February 2023, during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in June 2023.

Milestones	Beginning	End
Survey Launch	January 16, 2023	
Survey Phase	January 16, 2023	February 22, 2023
Sneak Previews	April 27, 2023	
Press Release & Publication	June 29, 2023	

Please refer to the link to view/download the ISG Provider Lens™ 2023 research agenda

Access to Online Portal

You can view/download the questionnaire from here using the credentials you have already created or refer to instructions provided in the invitation email to generate a new password. We look forward to your participation!

Research Production Disclaimer:

ISG collects data for the purposes of writing research and crea ting provider/vendor profiles. The profiles and supporting data are used by ISG advisors to make recommendations and inform their clients of the experience and qualifications of any applicable provider/vendor for outsourcing the work identified by clients. This data is collected as part of the ISG FutureSource process and the Candidate Provider Qualification (CPQ) process. ISG may choose to only utilize this collected data pertaining to certain countries or regions for the education and purposes of its advisors and not produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of the information rec eived directly from providers/vendors and the availability of experienced analysts for those countries or regions. Submitted information may also be used for individual research projects or for briefing notes that will be written by the lead analysts.

Client Feedback Nominations

ISG Star of Excellence™ – Call for nominations

The Star of Excellence is an independent recognition of excellent service delivery based on the concept of "Voice of the Customer." The Star of Excellence is a program, designed by ISG, to collect client feedback about service providers' success in demonstrating the highest standards of client service excellence and customer centricity.

The global survey is all about services that are associated with IPL studies. In consequence, all ISG Analysts will be continuously provided with information on the customer experience of all relevant service providers. This information comes on top of existing first-hand advisor feedback that IPL leverages in context of its practitioner-led consulting approach.

Providers are invited to nominate their clients to participate. Once the nomination has been submitted, ISG sends out a mail confirmation to both sides. It is self-evident that ISG anonymizes all customer data and does not share it with third parties.

It is our vision that the Star of Excellence will be recognized as the leading industry recognition for client service excellence and serve as the benchmark for measuring client sentiments.

To ensure your selected clients complete the feedback for your nominated engagement please use the Client nomination section on the Star of Excellence website.
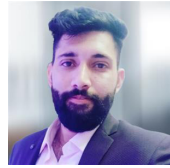
We have set up an email where you can direct any questions or provide comments. This email will be checked daily, please allow up to 24 hours for a reply. Here is the email address: ISG.star@isg-one.com

ISG Star of Excellence

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ISG Provider Lens Advisors Involvement Program

ISG Provider Lens offers market assessments incorporating practitioner insights, reflecting regional focus and independent research. ISG ensures advisor involvement in each study to cover the appropriate market details aligned to the respective service lines/technology trends, service provider presence and enterprise context.

In each region, ISG has expert thought leaders and respected advisors who know the provider portfolios and offerings as well as enterprise requirements and market trends. On average, three advisors participate as part of each study's quality and consistency review team (QCRT).

The QCRT ensures each study reflects ISG advisors' experience in the field, which complements the primary and secondary research the analysts conduct. ISG advisors participate in each study as

part of the QCRT group and contribute at different levels depending on their availability and expertise.

The QCRT advisors:

- Help define and validate quadrants and questionnaires,
- Advise on service provider inclusion, participate in briefing calls,
- Give their perspectives on service provider ratings and review report drafts.

ISG Advisors to this study

Pierre Puyraveau
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Phil Hugus
Partner

Yadu Singh
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John Lytle
Director

Jon Harrod
Director

If your company is listed on this page or you feel your company should be listed, please contact ISG to ensure we have the correct contact person(s) to actively participate in this research.

Accenture	Capgemini	Deutsche Telekom	hSo
Advatek	Cato Networks	DXC Technology	Huawei
Apcela	C-C Solutions	Ericsson	IBM
Arista	CDW	Evolving Networks	Intuitive Systems and Networks (ISN)
AT&T	Cisco	Expereo	Juniper Networks
Atos	Citrix	Extreme Networks	Kyndryl
Axians	Claranet	FatPipe	Lancom
Bechtle	Colt	flexiWAN	Logicalis
BECOM	Comcast Business	Forcepoint	LTTS
Black Box	Computacenter	Fortinet	Lumen
Blaze Networks	Controlware	Fujitsu	MetTel
Breeze Networks	Crown Castle	Globalgig	Microland
BT	Cyient	GTT	Mphasis
Cambium Networks	Damovo	HCLTech	nacXwan
CANCOM	Delinea	HPE Aruba	Neos Networks

Invited Companies

Netconsulting	Stream Networks
Nokia	Tata Communications
Nomios	TCS
NTT	Tech Mahindra
Nuvias	Telefónica
Open Systems	T-Mobile
Oracle	TNF
Orange Business Services	Verizon
Palo Alto Networks	Versa
Peplink	VMO2B
Prodapt	VMware
Redcentric	Vodafone
Riedel Networks	Windstream
Riverbed	Wipro
SAS Global Communications	Zensar

About Our Company & Research

ISG Provider Lens™

The ISG Provider Lens™ Quadrant research series is the only service provider evaluation of its kind to combine empirical, data-driven research and market analysis with the real-world experience and observations of ISG's global advisory team. Enterprises will find a wealth of detailed data and market analysis to help guide their selection of appropriate sourcing partners, while ISG advisors use the reports to validate their own market knowledge and make recommendations to ISG's enterprise clients. The research currently covers providers offering their services across multiple geographies globally.

For more information about ISG Provider Lens research, please visit this webpage.

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ISG

ISG (Information Services Group) (Nasdaq: III) is a leading global technology research and advisory firm. A trusted business partner to more than 800 clients, including more than 75 of the world's top 100 enterprises, ISG is committed to helping corporations, public sector organizations, and service and technology providers achieve operational excellence and faster growth. The firm specializes in digital transformation services, including automation, cloud and data analytics; sourcing advisory; managed governance and risk services; network carrier services; strategy and operations design; change management; market intelligence and technology research and analysis.

Founded in 2006, and based in Stamford, Conn., ISG employs more than 1,300 digital-ready professionals operating in more than 20 countries—a global team known for its innovative thinking, market influence, deep industry and technology expertise, and world-class research and analytical capabilities based on the industry's most comprehensive marketplace data. For more information, visit www.isg-one.com.

ISG Provider Lens™