

An abstract collage of skyscraper facades, primarily in shades of blue and teal, with some yellow and orange tones at the bottom. The images are cut into geometric shapes and arranged in a layered, overlapping fashion.

***ISG** Provider Lens™

2022

Network — Software
Defined Solutions and
Services 2022

imagine your future®

ISG (Information Services Group) (NASDAQ: III) is a leading global technology research and advisory firm. A trusted business partner to more than 700 clients, including 75 of the top 100 enterprises in the world, 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; technology strategy and operations design; change management; market intelligence and technology research and analysis. Founded in 2006, and based in Stamford, Connecticut, ISG employs more than 1,300 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.



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Introduction

This ISG Provider Lens™ study, Network — Software Defined Solutions and Services 2022, examines various kinds of global network offerings related to enterprise networks and software-defined networking. These include software defined wide area networks (SD-WAN), which include 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 which enterprises implement and operate themselves, (including full and partial SD-WAN solutions, OSS/BSS, O-RAN, etc), covering all areas from the network core to edge-branch technology and services. The study also looks at edge technologies and services, including Internet of Things (IoT, universal/virtual customer premises equipment (u/vCPE) and software defined local area network (SD-LAN) including the ones delivering through mobile and 4G/5G technologies and the service offerings related to these segments. In addition, the study will examine secure access service edge (SASE), which is a fast growing and overarching, secure and fully integrated network environment for businesses.

Enterprises are evaluating various means to increase their agility, flexibility, competitiveness, delivery structures, and remote working and continuity practices. This is mainly due to the impacts of COVID-19 pandemic globally during 2020-2021. A large part of this challenge is not only associated with technology use, but also with the transformation of established processes and traditional management practices. Enterprises are also analyzing how companies can achieve a sufficient degree of flexibility, speed and collaboration internally and across and outside of enterprise boundaries, while being able to overcome their challenges, to deliver the benefits to themselves and their (ever more mobile) customers and users, including at the edge of the business and edge of the traditional network, in a highly secure manner. This adjustment and the speed at which it is realized are relevant and critical for the entire enterprise organization and value stream. Enterprises must understand that software defined networking works together with cloudification, intelligent edge and mobility strategies, along with digital business transformation areas such as AI, IoT, machine learning, and automation and collaboration. as well as examining and potentially implementing overarching strategies linking business goals, security and networking together into fully integrated architecture and systems such as SASE. These collectively have a high influence on agility, flexibility, productivity, security, customer/user satisfaction and profitability.

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.

The ISG Provider Lens™ study offers ICT decision-makers the following:

- Transparency over the strengths and weaknesses of relevant providers
- Differentiated positioning of providers by segments
- Perspective on several markets, including Australia, Malaysia and Singapore, France, Germany, the U.K., the U.S. and the Nordics

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.

Quadrants Research

As a part of this ISG Provider Lens™ quadrant study, we introduce the following five quadrants under Network — Software Defined Solutions and Services 2022:

Simplified illustration

Network — Software Defined Solutions and Services 2022	
Managed (SD) WAN Services	Transformation Services (Consulting & Implementation)
Enterprise Networks Technology and Service Suppliers	Edge Technologies and Services
Secure Access Service Edge (SASE)	

Source: ISG 2022

Managed (SD) WAN Services

This quadrant addresses the providers of enterprise WAN (primarily enterprise SD-WAN or hybrid MPLS/IP WAN) that deliver managed solutions and associated services to enterprise clients.

SD-WAN provides the benefits of software defined technology over traditional hardware-based networking. It is an overlay architecture with a networking foundation that is easier to manage than legacy WANs, essentially moving the control layer to the cloud and, in the process, centralizing and simplifying network management. This overlay design abstracts software from hardware, enabling network virtualization and making the network more elastic. 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

- Scope of product/service managed WAN portfolio
- Ability to deliver and manage all hardware and software aspects
- Ability to rearchitect (as required) the existing MPLS-based WANs into hybrid-WAN systems
- Management capability for the needed orchestration and control of the overall architecture
- Flexibility and ease of introducing new services and deployments
- Stability and roadmap planning
- Reference customer/site volume in deployment
- Competitiveness of offering and commercial terms

SDN Transformation Services (Consulting & Implementation)

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 through to services delivery and rollout.

Traditionally, modifications or new installations of IT devices in a data center and its external WAN networks involved making changes to each network component, which could take days or longer. This rigid architecture is increasingly being challenged by current business requirements for more agility, flexibility, automation and security — private, public, hybrid and multi-cloud networking, explosive mobile application usage in the workplace, IoT, Industry 4.0, big data, infrastructure as a service (XaaS) and intent-based AI and machine learning networking solutions requiring a flexible network environment that can accommodate changes quickly with minimum human intervention. Software defined 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. By moving the control layer to the cloud and, therefore, centralizing and simplifying network management using its overlay architecture, SD-WAN is much easier to manage when compared to legacy WANs and addresses today's digital transformation-driven business needs more effectively.

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

Eligibility criteria

- Scope of product/service portfolio
- Ability to deliver consulting for strategizing right through to deploying technology, including providing support in all integration and implementation areas
- Understanding of overall market and contributions to the same
- Scope of partnerships and offerings and management capability for the needed orchestration within a customer project
- Stability and roadmap planning capabilities
- Reference customer or solutions post pilot or commercial deployment
- Competitiveness of offering and types of commercial terms

Enterprise Networks Technology and Service Suppliers

This quadrant analyzes providers of software defined networking core to edge technology and services purchased directly by either service providers for specific projects or enterprises for their own operations or equipment delivery. This includes SD-WAN implementations or partial implementations that are not delivered as SD-WAN managed services —DIY SD-WAN projects. It also includes specific OSS/BSS solutions, O-RAN solutions, 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 connections such as MPLS, broadband internet, 4G/long-term evolution (LTE) and ethernet and provision them as overall bandwidth. SD-WAN determines the path for transmitting data packets and the medium to be used; if a connection has excess load, another path is taken automatically. 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 without the need for external mechanisms or additional protocols, allowing ease in branch and remote set-up and management, together with secure enterprise policy-driven communications.

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

Eligibility criteria

- Product portfolio coverage, focus areas, completeness of modular delivery and integration with broader solutions
- Ability to deliver equipment and service to customers, including requisite training
- Ability to deliver value-added services within a modern enterprise environment, using software defined methods
- Understanding of overall market area, technology environment and evolutions, and contributions to the same
- Scope of partnerships and offerings and management capability of a customer project
- Openness of offering to avoid vendor lock-in
- Reference customer or solutions post POC or pilot in commercial deployment
- Competitiveness of offerings and types of commercial terms such as shared risk models

Edge Technologies and Services

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

Edge technologies, services and computing are current trends in the IoT and IIoT world. With the localized processing of data, security and privacy have improved because any breach can be managed locally and not passed onto the WAN or cloud and, thus, back to central enterprise to defend. In IoT edge computing and networking, data from various connected devices of 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 have 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 great importance on efficient and software-driven edge capability networks and connectivity capabilities.

Edge components may 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) or mobile (SD-WMLAN), as well as IoT or IIoT sensors and devices or control/security devices.

Eligibility criteria

- Product portfolio coverage, focus areas and completeness of modular or area solutions, together with integration into broader solutions
- Ability to deliver requisite training and education to clients, if required, with POC or studio
- Understanding of overall market, technology environment and evolutions and contributions to the same, together with industry-specific knowledge and experience
- Scope of partnerships and offerings and management capability of disparate providers and solutions within a customer project
- Reference customer or solutions in POC or pilot deployments or commercial deployments
- Competitiveness of offerings and types of commercial terms

Secure Access Service Edge (SASE)

This quadrant analyzes SASE solutions, which are offered to enterprises as overarching integrated networks and security solutions from the enterprise core to edge, fully integrated with other enterprise business systems as appropriate for an enterprises road map. It includes solutions moving into pilots and solutions, which are, at present, commercially deployed into production.

Enterprises are increasingly focused on migrating their ICT and network operations into the cloud, while enhancing security in all touchpoint areas. Software defined networks have been proven to assist with this by reducing complexity and enabling a reduced risk migration to single or multi-cloud environments for enterprises. Network security has become a major point of concern across business units and enterprises, in line with the changes within modern networks and the expectations of full security from core to edge in all networks. Security as a service or enhanced DIY security has been and continues to be a rapidly growing area. However, many enterprises perceive such solutions to not cover all possible touchpoints or evolve fast enough.

Digital business transformation and many new innovations (such as intent-based networks, AI or machine learning-driven solutions, services and systems, rapid hotspot provisioning and data flow allowance, self-healing networks, intelligent edge and edge computing, and mobility-based branch) must take full advantage of the flexibility and abilities of software defined networks to drive solutions to their full potential. These may also require enhanced security at many different levels and touchpoints to constantly evolve and be secure.

Over the last few years, a considerable proposal, design and concept modeling work has been done in the area of integrated secure enterprise networks (ISEN), which has evolved into the currently accepted term in the industry of secure access, secure edge (SASE). Major components of SASE include SD-WAN, cloud access security broker (CASB), data loss prevention (DLP), next generation firewall (NGFW) and firewall-as-a-service (FWaaS), zero trust network access (ZTNA), and secure web gateways (SWG), encompassing secure and integrated access from the data center (which may encompass network function virtualization (NFV)), through to branch or edge, including SD-LAN or its wireless or mobile variant). The ISG Cyber Security IPL covers the security stack in deeper detail.

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

Eligibility criteria

- Product portfolio coverage, focus areas, completeness of solutions, fully integrated broader solutions linking to data centers or other enterprise IT applications and systems
- Membership or affiliation (including inputs) with global SASE technical and trade groups
- Ability to enable clients to reuse the existing network and ICT solutions, instead of just rip and replace
- Ability to deliver training and provide both POC or studio simulations and testing for a client
- Industry-specific knowledge and experience mapped to client type
- Scope of partnerships and offerings and management capability for the needed orchestration within a customer project
- Reference customer or solutions in pilot moving into commercial deployment

Quadrants by Region

Quadrants	Australia	France	Germany	Nordics	Malaysia & Singapore	U.K.	U.S.
Managed SD-WAN Services	✓	✓	✓	✓	✓	✓	✓
Transformation Services (Consulting & Implementation)	✓	✓	✓	✓	✓	✓	✓
Enterprise Network Technology and Service Suppliers	✓	✓	✓	✓	✓	✓	✓
Edge Technologies and Services	✓	✓	✓	✓	✓	✓	✓
Secure Access Service Edge (SASE)	✓	✓	✓	✓	✓	✓	✓

Archetype Report

This strategic report improves awareness or knowledge and enables decision-making based on the capabilities and positioning of IT, network and business service providers. The new ISG Provider Lens™ Archetype report aligns ISG-identified client requirements with known provider capabilities.

The report identifies 4-6 archetypes that represent typical buyer characteristics and buying requirements for IT, network or BPO service lines. These archetypes are:

- Globally focused
- Represent ISG advisor perception of buying patterns of clients
- Neither non-prescriptive nor rank based
- Help align buyer-side needs with provider-side capabilities to reduce costs for both sides

Figure 1: Sample ISG Provider Lens™ Study Provider Listing

Traditional Archetype Archetype Leaders	Staff Augmentation Focus	T&M Pricing Focus	Packaged Technology Capabilities	Custom Development Focus
A				
B				
C				
D				
E				
F				
G				
H				
Score 4 out of 4 Score 3 out of 4 Score 2 out of 4 Score 1 out of 4				

Schedule

The research phase falls in the period between **January to March 2022** during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in **June 2022**.

Milestones	Beginning	End
Survey phase	27 January 2022	11 March 2022
Sneak previews	16 May 2022	16 June 2022
Content provisioning	16 May 2022	31 May 2022
Press release	June 2022	

Please refer to the [link](#) to view/download the ISG Provider Lens™ 2022 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!

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: Star@isg-one.com

Research production disclaimer:

ISG collects data for the purposes of writing research and creating 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 work identified by the 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 to produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of information received 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.

Partial list of companies being invited for the survey

Are you in the list or do you see your company as relevant provider that is missing in the list? Then feel free to contact us to ensure your active participation in the research phase.

1&1 Versatel	Broadcast Solutions Finland	Crosser
A10 Networks	Broadcom	Crown Castle
Accenture	BT	Cymbiq
Adatis Managed Services	Calero	Damovo
AFRY	CANCOM	Data#3
Akamai Technologies	Capgemini	Datacom
Alcatel-Lucent Enterprise	Casa Systems	Dell EMC
Allied Telesis	Cato Networks	Deutsche Telekom
ALTEN calsoft labs	Centrify	Dicker Data
Altiosstar	Cisco	DNA Oyj
Altran (Aricent Group)	Citrix	DSI Ltd
Amazon Web Services	Claranet	DXC
Apcela	Clavister	EE
Arista	Cloudflare	Ekinops
Aryaka	Cocus AG	Electra Networks
Asavie	Coevolve	Elisa
AT&T	Cognizant Technology Solutions	Empirix
Atos	Colt	Enea
Axians	Comcast	Enreach UK
Barracuda	CommScope	Ensign Communications
Belkin	Computacenter	Ericsson
Blue Telecom	Controlware	euNetworks
Bouygues Telecom	Cradlepoint	Extreme Networks

List of companies to be invited for the survey

Are you on the list, or do you see your company as relevant provider that is missing from the list? Then feel free to contact us to ensure your active participation in the research phase.

FatPipe	Kapsch CarrierCom	Netskope
Flexiwan	KPN	Nevion
Forcepoint	L&T Technology Services	Nexion Networks
Fortinet	Ligado Networks	Next-Tech Wireless
Free All	Iliad S.A.	Nokia Networks
Fujitsu	Logicalis	Nortech
GCINET	LTi	NTT Global Networks
GCX	Lumen Technologies	Nuage Networks
GTT Communications	Macquarie Telecom	O2 (Telefonica UK)
HCL	Masergy	Olabs Technology
HPE Aruba	Mavenir	Omnitele
Huawei	Megaport	Open Systems
Hughes Network Systems	MetTel	Optanix (acquired by ATSG)
IBM	Microdata Telecom	Optus
IBM Deutschland	Microland Limited	Oracle
In2IT Technologies	Microsoft (Metaswitch)	Orange Business Services
Infinite Computer Solutions	MLL Telecom	Palo Alto Networks
Infosys	M-net	Parallel Wireless
Infovista	nacXwan	PCCW Global
IONOS	necunified	Pica8
IPLOOK.com	NetApp	Pomeroy
Juniper Networks	NetCologne	Prevas
Kaloom	NetNordic	Prodapt

List of companies to be invited for the survey

Are you on the list, or do you see your company as relevant provider that is missing from the list? Then feel free to contact us to ensure your active participation in the research phase.

QSC	Tango Telecom Ltd	Trend Micro
Qualcomm	Tata Communications	Unisys
RAD	TCS (Tata Consultancy Services)	Uscellular
Radisys	TDC (Denmark)	UST
Ranplan Wireless	Tech Mahindra	Verizon
Riedel Networks	Teldat	Versa
RINA wireless	Tele2	Vertiv
Riverbed Technology	Telefónica	VIAVI Solutions
Royal Cyber	Telenor	Viprinet
Samsung	Teleste	Virgin Communications
Sayse	Telia	VMware
SES Networks	Teligent Telecom AB	Vocus
SFR	Telstra	Vodafone
Specialist Computer Centres PLC	Telus	Windstream
Spirent	Three	Wipro Technologies
SSE	TietoEVERY	Xenon
Sterlite Technologies Limited	T-Mobile US	Zayo Group
Svenska Digital	TNNet	Zeetta Networks
Symantec	Total Network Solutions (TNS)	Zensar Technologies
Syniverse	totalnetsol	Zscaler
Syntax Systems	TPG Telecom	ZTE

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Do you need any further information?

If you have any questions, please do not hesitate to contact us at isglens@isg-one.com.

ISG Provider Lens QCRT Program Description

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 & 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 providers inclusion and participate in briefing call
- give their perspectives on service provider ratings and review report drafts

The ISG Provider Lens QCRT program helps round out the research process, supporting comprehensive research-focused studies.

Quality & Consistency Review Team for this study



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Do you need any further information?

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