Global Pricing Strategies for SD-WAN Services

SUMMARY

SD-WAN services are becoming increasingly popular globally. The worldwide market for SD-WAN is $1.8 billion in 2020, growing to $2.9 billion in 2023. SD-WAN penetration rates are 53.5% in the Americas, 22% in EMEA, and 3.1% in APAC. Global penetration rates are still low at 6%.

SD-WAN can include basic SD-WAN tunnel connectivity services and more advanced services provided by virtual network functions. Services are broken down by features and bandwidth. Although both features and bandwidth levels can vary, ACG has defined a common set of features: SD-WAN Basic, SD-WAN Premium, Enhanced Security, WAN Optimization, LTE Backup, and High Availability CPE. Depending on which service features and options are selected, the monthly recurring cost generally varies based on network bandwidth. The levels of bandwidth defined in this report are 10, 100, 500, 1,000, and 10,000 Mbps. Most branch offices use lower bandwidth services; large headquarters and data centers utilize higher bandwidth services.

As service providers design and roll out SD-WAN services a key question is how should services be priced? Different service providers have taken distinctive approaches, and pricing generally varies in regions because of unique economic circumstances. This ACG report is a detailed study of SD-WAN service features and pricing and provides aggregated and averaged service features and pricing for key regions: North America, Europe, Asia Pacific, Latin America, and India.

Report Highlights

SD-WAN service offers vary between different service providers and regions

Pricing is based on features and network bandwidth

Key service offering are SD-WAN Basic, SD-WAN Premium, Enhanced Security, WAN Optimization, LTE Backup, and HA CPE

SD-WAN SERVICE OVERVIEW

Many service providers worldwide are offering SD-WAN services. The features and pricing structures for SD-WAN services vary between service providers and regions. This section provides a brief overview of the key drivers, features, and benefits of SD-WAN services.

For many years enterprise networks have been based on Multiprotocol Label Switching (MPLS) services provided by communication service providers. MPLS networks are typically hub and spoke networks that connect branch offices to one or more central hubs that are headquarters or data centers. Internet connections and firewalls are typically located in these central locations. Over the last decade the flow of enterprise traffic has changed. Traffic now flows to multiple end points:

- Internet
- Public Clouds
- Private Clouds
- Peer to Peer

SD-WAN is a virtual overlay network that is better suited to diverse applications, multicloud connectivity, internet connectivity, and customized traffic management. Traffic is transported across a diverse set of network transport options using secure tunnels (Figure 1). The underlay transport network includes options such as:

- Broadband Internet (Cable or xDSL)
- Direct Internet Access (DIA)
- MPLS
- Wireless (LTE or 5G)

SD-WAN also provides traffic flexibility supporting connectivity to the internet, public, and private clouds. Some of the key features of SD-WAN services are:

- Secure network services over any transport using IPSEC tunnels, simple NAT, and firewalls
- Application-aware network services providing priority to important applications
- Network bandwidth management and optimization
- Fault recovery using redundant links or LTE/5G backup
- Redundant CPE in key branch offices
- Connectivity to public, private, and hybrid clouds
- Zero-touch provisioning, simplifying installation
- A large range of white-box CPE with different bandwidth and features

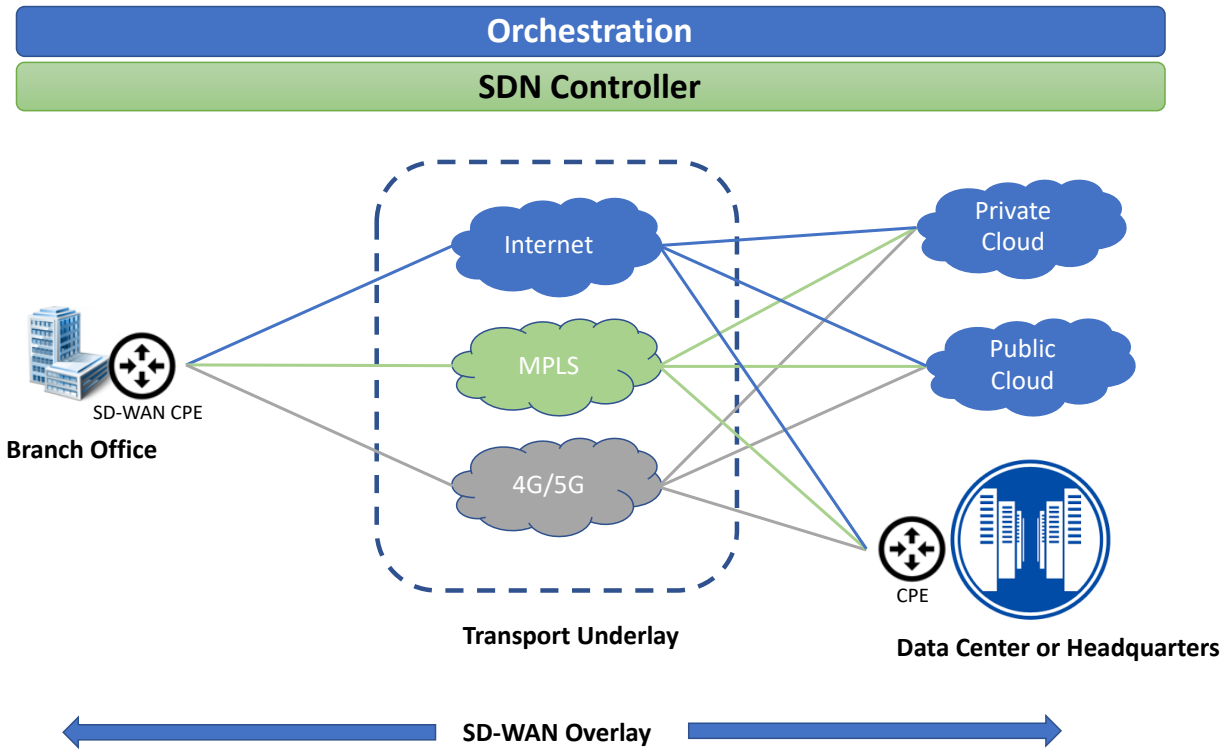

Figure 1. Network Transport Options

SD-WAN services are continuing to experience dramatic growth because of key benefits:

- Reduce network transport expenses by replacing MPLS with lower-cost internet access or a combination of MPLS and internet
- Improve network performance and availability
- Deliver application performance monitoring and tuning
- Provide advanced network analytics and management
- Offer better architecture for multicloud connectivity
- Decrease operations expenses because of zero-touch provisioning

Additionally, basic SD-WAN services can be augmented with virtual network function (VNF) services. VNFs are software-based network functions that can be deployed on customer premise equipment (CPE) or deployed in the cloud (Figure 2). Examples of VNFs are:

- Virtual Next-Generation Firewalls
- Virtual WAN Optimization
- Virtual Session Boarder Controllers
- Virtual Routers

When SD-WAN services are combined with VNFs richer more complex networks and services can be created. VNFs also allow for additional services to be layered on top of existing services, which enables service providers with opportunities to up-sell services.

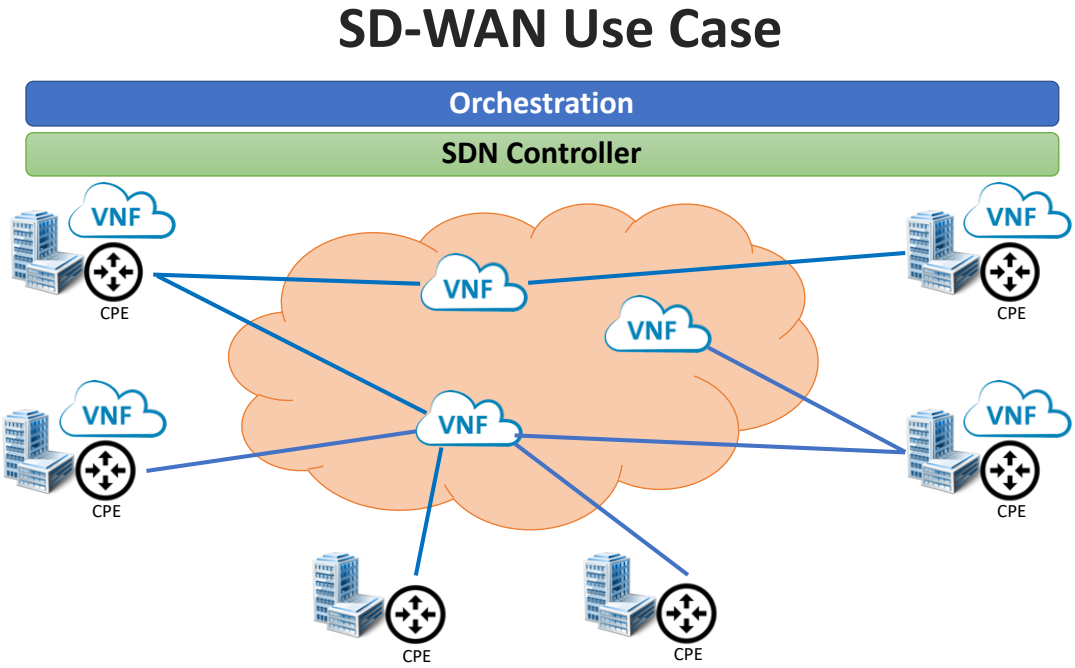

Figure 2. SD-WAN Use Case

SD-WAN SERVICE PRICING

SD-WAN services and pricing vary based on the region, service provider, and the complexity level of the service. SD-WAN services can be divided into two general categories:

1. Pure SD-WAN services (Figure 1) with pricing models that are relatively simple and easy to consume
2. Complex SD-WAN and VNF services (Figure 2) with a wide selection of SD-WAN, premise, and cloud-based VNFs with more complex pricing models

Many service providers offer simpler, pure SD-WAN services, whereas the more complex SD-WAN and VNF services are offered by larger Tier 1 service providers. The more complex services are typically consumed by large enterprises. In general, the demand is much higher for the pure SD-WAN service offering because of the relative simplicity of the service offer.

Another important point is that SD-WAN is an overlay service on top of an underlay network transport service. SD-WAN service pricing typically does not include the underlay service pricing. For example, an enterprise customer might purchase network transport services that include internet, MPLS, and 5G from one or more service providers and an SD-WAN service from another service provider. The SD-WAN service pricing is on top of the network transport service pricing. Although there are some service providers that bundle network transport and SD-WAN services at a discount, these services are typically priced and offered as separate services.

Some SD-WAN services use fixed rate pricing that is independent of network bandwidth; however these offerings are rare. Service providers more typically price SD-WAN services based on a combination of features and SD-WAN bandwidth.

We have aggregated and averaged SD-WAN service features and pricing for several regions:

- North America
- Europe
- Asia Pacific
- Latin America
- India

The aggregated SD-WAN feature set is defined in Table 1. Although features vary between different service providers, this feature set captures the essence of most SD-WAN service offers. The customer typically will choose either basic or premium service and then choose one or more options that include security, WAN optimization, LTE backup or high availability (HA) CPE. Each option adds additional cost to the service.

Service	Functions
SD-WAN Basic	Includes basic SD-WAN features and CPE rental. Also includes basic stateful firewall. Does not include advanced management features and analytics
SD-WAN Premium	All basic features plus advanced management (Application traffic control), analytics, and advanced firewall.
Enhanced Security	Next-generation firewall VNF. Enhanced security includes full UTM, Anti-Malware, and other advanced features. Typically, customers can choose the vendor (Juniper, Palo Alto, Fortinet, etc.)
WAN Optimization	WAN Optimization VNF
LTE Backup	LTE backup used if there is a network failure
HA CPE	Redundant CPE for high availability
Installation	Nonrecurring charge for SD-WAN installation

Table 1. SD-WAN Feature Set

The key factors that influence the service price in different regions are:

- Labor rates
- On-going support and maintenance
- Taxes
- Competition
- Network transport pricing (MPLS, DIA, Broadband, etc.)
- Discounts for multiyear contracts

Most of the pricing for SD-WAN are monthly recurring charges (MRC) with the exception of installation, which is a nonrecurring charge. ACG has aggregated and averaged SD-WAN pricing for each of the categories defined in Table 1. The average monthly pricing in US dollars for each of the regions is presented in Tables 2–7. This is the average MRC pricing for a one-year contract. There are also discounts for two or three year contracts. The average discounts are:

- Two-year term discount of 10%
- Three-year term discount of 17%

Global Average							
	SD-WAN Includes CPE		Premise VNF		Options		
Mbps	SD-WAN Basic	SD-WAN Premium	Enhanced Security	WAN Optimization	LTE Backup	HA CPE	Installation
10	180	216	208	420	44	57	398
100	238	363	238	710	44	63	398
500	610	732	511	1128	48	94	398
1000	744	1096	945	2208	48	303	398
10000	1488	2192	1890	4416	97	607	398

Table 2. Global SD-WAN Pricing

	SD-WAN Includes CPE		Premise VNF		Options		
Mbps	SD-WAN Basic	SD-WAN Premium	Enhanced Security	WAN Optimization	LTE Backup	HA CPE	Installation
10	143	171	165	334	35	45	400
100	189	289	189	564	35	50	400
500	442	530	370	818	35	68	400
1000	540	795	685	1601	35	220	400
10000	1079	1589	1370	3202	70	440	400

Table 3. North America SD-WAN Pricing

	Includes CPE		Premise VNF		Options		
Mbps	SD-WAN Basic	SD-WAN Premium	Enhanced Security	WAN Optimization	LTE Backup	HA CPE	Installation
10	139	167	161	325	34	44	390
100	184	281	185	550	34	49	390
500	431	517	361	797	34	66	390
1000	526	775	668	1561	34	215	390
10000	1052	1549	1336	3122	68	429	390

Table 4. Europe SD-WAN Pricing

	Includes CPE		Premise VNF		Options		
Mbps	SD-WAN Basic	SD-WAN Premium	Enhanced Security	WAN Optimization	LTE Backup	HA CPE	Installation
10	135	163	156	316	33	43	379
100	179	274	180	535	33	47	379
500	419	503	351	776	33	65	379
1000	512	754	650	1519	33	209	379
10000	1024	1507	1300	3037	66	417	379

Table 5. APAC SD-WAN Pricing

	Includes CPE		Premise VNF		Options		
Mbps	SD-WAN Basic	SD-WAN Premium	Enhanced Security	WAN Optimization	LTE Backup	HA CPE	Installation
10	114	137	132	267	28	36	320
100	151	231	151	451	28	40	320
500	619	743	518	1145	49	95	320
1000	755	1112	959	2241	49	308	320
10000	1511	2225	1918	4482	98	616	320

Table 6. Latin America SD-WAN Pricing

	Includes CPE		Premise VNF		Options		
Mbps	SD-WAN Basic	SD-WAN Premium	Enhanced Security	WAN Optimization	LTE Backup	HA CPE	Installation
10	367	441	424	859	90	116	500
100	486	742	487	1451	90	129	500
500	1138	1365	952	2104	90	175	500
1000	1388	2045	1763	4120	90	566	500
10000	2777	4089	3526	8239	180	1132	500

Table 7. India SD-WAN Pricing

There is also a class of more complex SD-WAN and VNF services. Some service providers have taken an approach of creating a similar model to an app store where enterprise customers have a high degree of flexibility and choice in selecting SD-WAN services. For example, it is possible to choose:

- SD-WAN and VNF Vendors (Juniper, Cisco, Versa, Palo Alto, Fortinet, etc.)
- Cloud or Premise-Based Services
- SD-WAN and VNF Capacity Levels
- CPE Devices and CPE Capacity
- Service Features
- Regions

These pricing models are more complex and cannot be presented in tabular form; however, ACG has developed a calculator to estimate pricing for these more complex services. These services are primarily offered by Tier 1 service providers and targeted at large enterprises that want to design, control, and manage their virtual networks. For information about obtaining and using this calculator please contact your Juniper sales representative.

CONCLUSION

SD-WAN services continue to grow at rapid rates around the globe. SD-WAN services are either replacing or enhancing existing MPLS services. For service providers to maintain and grow their enterprise network business, SD-WAN service is a must-have service offer. This data provides a framework for service providers to design and price their SD-WAN services based on regional benchmark pricing.

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