

VMware SD-WAN

Edge platform specifications

AT A GLANCE

VMware SD-WAN enables enterprises to securely support application growth, network agility, and simplified branch implementations while delivering high-performance, reliable branch access to cloud services, private data centers, and SaaS-based enterprise applications. VMware SD-WAN is built on software-defined networking principles to address end-to-end automation, application continuity, branch transformation, and security from the data center and cloud to the edge.

KEY BENEFITS

- **Simplified WAN management:**
Zero touch deployments, simplified operations, one-click service insertion
- **Assured application performance:**
Transport-independent performance for the most demanding applications, leveraging economical bandwidth
- **Managed on-ramp to the cloud:**
Direct cloud access with performance, reliability, and security

VMware SD-WAN™ is a cloud-delivered solution to ensure high application performance and availability while lowering networking costs. VMware SD-WAN ensures a reliable and resilient WAN, with a choice of connection types, including MPLS, LTE, Wi-Fi, and broadband. It can detect slight degradation that would affect application performance, improve performance over a single link using congestion mitigation technology, and adapt without any noticeable impact on the user experience.

VMware SD-WAN components

The VMware SD-WAN solution consists of hosted or on-premises cloud gateways; branch office appliances and data center appliances; a central orchestrator to automate policies; and virtual services insertion capabilities

VMware SD-WAN Edge

Enterprise-class appliances to provide secure, optimized connectivity to applications anywhere, on and off cloud.

- VMware SD-WAN Edge software is zero-touch provisioned for a secure, optimized connectivity to applications and data.
- The VMware SD-WAN Edge with Dynamic Multipath Optimization™ (DMPO) and deep application recognition aggregates multiple links and steers traffic over optimal links to other VMware SD-WAN Edges and Gateways.
- They can easily integrate with the existing network via routing protocols and benefit from dynamic learning and automation. Edges deliver highly available deployment with a redundancy protocol.
- They can host VNF services simplifying branch office deployments of network services.

The VMware SD-WAN Edge is available in different form factors: hardware-based appliance, a virtual appliance, on the cloud marketplaces and a virtual machine (VM) on a server or as a VNF.

VMware SD-WAN Gateways

VMware SD-WAN Gateways optimize data paths to all applications, branches, and data centers along with the ability to deliver network services to and from the cloud. A distributed network of gateways, deployed around the world or on-premises at service providers, provide scalability, redundancy, and on-demand flexibility.

VMware SD-WAN Gateways implement VMware Dynamic Multipath Optimization™ (DMPO), cloud VPN, and VMware SD-WAN Multisource Inbound Quality of Service between global cloud services (SaaS, IaaS, network services) and each VMware SD-WAN Edge, enabling multiple broadband and private leased lines to appear as a single, high-performance WAN.

VMware SD-WAN Orchestrator

A cloud-hosted or on-premises secure and scalable web-based central management tool provides simplified configuration, provisioning, monitoring, fault management, logging, and reporting. The VMware SD-WAN Orchestrator enables the simple implementation of business-based policies for application delivery, simplifying application traffic management.

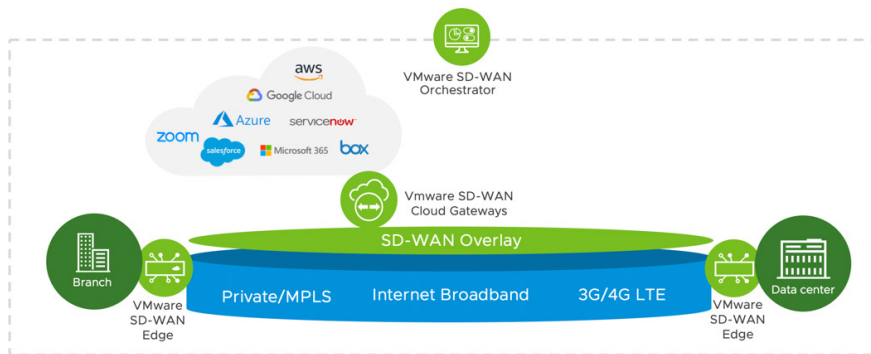


FIGURE 1: VMware SD-WAN

VMware Edge Network Intelligence

VMware Edge Network Intelligence™ is a vendor-agnostic artificial intelligence for IT Operations (AIOps) solution focused on the enterprise edge that ensures end user and internet of things (IoT) client performance, security, and self-healing through wireless and wired LAN, SD-WAN and secure access service edge (SASE).

The solution employs machine learning algorithms and modern big data analytics to process high volumes of data from a wide range of network, device, and application sources. In doing so, VMware Edge Network Intelligence auto-discovers end user and IoT devices, automatically establishes baselines, understands every single client interaction and monitors for deviations to provide actionable insights that operations teams can proactively remediate.

See the VMware Edge Network Intelligence [datasheet](#) for more information.

Software features

Category	Features
AAA	RADIUS, local authentication and authorization, multitenant 3 Tier RBAC architecture, auditing, roles and privileges
Availability	High availability for VMware SD-WAN Edge, disaster recovery for VMware SD-WAN Orchestrator, multilink for high availability of WAN. Edge clustering
Configuration and monitoring	REST API, SDK (Java and Python), Syslog, SNMP, NetFlow, 3000+ applications/categories, ANPM, application usage, device identification, live mode, zero IT touch activation
Deployment flexibility	Eliminate pre-stage, no CLI, group policies, consolidated ICOM and end customer dashboard, VNF form-factor, multitenant stateless headend, transport group for business policy abstraction, application-aware service insertion on premises or in cloud, RMA workflow, customized application maps
Dynamic Multipath Optimization	Application and network condition aware sub-second steering, jitter/loss correction, fast intelligent routing, intelligent gateway selection, link aggregation, TCP flow optimization, uni-directional link measurements, bandwidth detection
Multitenancy	VMware SD-WAN Controller, VMware SD-WAN Gateway, VMware SD-WAN Orchestrator
Network services	IPv4, DNS, DHCP client, DHCP server, DHCP relay, NAT
QoS	Shaping, policing, per-flow queueing, tunnel shaper, multi-source inbound QoS, rate-limiter, COS aware, outer/inner DSCP tagging, smart defaults, MPLS COS
Remote troubleshooting	Live mode, alerts, events, remote diagnostics (examples: DNS test, ping test, flush active flows, list active flows, paths, VPN tests, packet capture, etc.), PKI infrastructure with certificate management workflows, diagnostic bundles
Routing	OSPF, BGP, static, connected, ICMP probes/responders, overlay flow control, per-packet application aware steering, route filter, route redistribution
SaaS/laaS	Improved performance for cloud apps, supports well-known IaaS (e.g., AWS, Azure, GCP), Cloud Web Security (e.g., Check Point, Zscaler, Palo Alto Networks, Netskope, Menlo Security, Websense, OpenDNS)
Security	AES256/128, SHA1/SHA2, IKEv2, VPNC compliant IPsec, PKI, segmentation, TLS1.2, SCEP, firewall L2-7, 1:1 NAT, port forwarding, dynamic branch to branch, MAC filtering security service Insertion capabilities: simplified service insertion of third-party NGFW VNF running locally on Edge simplified cloud-based NGFW, AV, IPS/IDS, threat-detection service insertion
Port Security	Wi-Fi 802.1x – WPA-Enterprise (EAP-MD5, EAP-TLS), WPA-Personal Routed Port 802.1x- Enterprise (EAP-MD5, EAP-TLS) - MAC address-based access (local)
VLAN tagging	802.1Q, 802.1ad, QinQ (0x8100), QinQ (0x9100), native
WAN overlay support	Public/private/hybrid transport, cloud and on-premises

Software subscriptions editions

VMware SD-WAN software is based on different subscription editions with different features designed for a wide variety of use cases. They are listed below.

Features	Standard Edition	Enterprise Edition	Premium Edition
VMware SD-WAN Orchestrator	✓	✓	✓
Dynamic Multi-Path Optimization (DMPO)	✓	✓	✓
Number of Edges supported	Unlimited	Unlimited	Unlimited
Maximum number of Data Segments	4	128	128
Maximum number of profiles	4	Unlimited	Unlimited
Partner Gateway Support	✓	✓	✓
Virtual services orchestration for NGFW deployment on Edges	✓	✓	✓
Routing support	BGP, OSPF	BGP, OSPF	BGP, OSPF
Cloud Gateway to SaaS and Cloud Security Service (without tunneling)	✗	✗	✓
Cloud Gateway to legacy DCs, IaaS, or Cloud Security Service via tunnels (non-SD-WAN destinations)	add-on	add-on	✓
Direct Edge to Internet/Cloud Security Service (BGP over IPsec*)	✓	✓	✓
Automated tunnel setup via API to IaaS or third-party Cloud Security Service	✗	from Edge	from Edge or Gateway
PCI Certified Service	add-on	add-on	add-on
Upgradeable to a higher edition	✓	✓	N/A
Maximum number of regional cloud controllers	2	10	10
Hub clustering	✓	✓	✓
Cloud VPN Hub	✗	✗	✓
Auto VPN setup	Hub to spoke	Hub to spoke plus dynamic B2B	Hub to spoke plus dynamic B2B
Customizable business & security policy	✓	✓	✓
Path visibility	Last-mile	Last-mile plus site-to-site	Last-mile plus site-to-site
Wired/wireless/LAN/WAN analytics with ENI	add-on	Includes 1 node, additional nodes available as add-on	Includes 2 nodes, additional nodes available as add-on
PKI certificate management	Embedded certificate of authority (CA)	Embedded CA plus intermediate and external CA*	Embedded CA plus intermediate and external CA*
Mixed Editions	✗	✓ (with Premium)	✓ (with Enterprise)

VMware SD-WAN is also licensed by bandwidth tier as shown in the table below.

Edge/BW	10 M	30 M	50 M	100 M	200 M	350 M	500 M	750 M	1 G	2 G	5 G	10 G
Edge 510, 510N, 510LTE	•	•	•	•	•							
Edge 520 ¹	•	•	•	•	•							
Edge 520V ¹	•	•	•	•								
Edge 540 ¹				•	•	•	•	•	•			
Edge 610, 610C, 610N, 610LTE	•	•	•	•	•	•						
Edge 620, 620C, 620N	•	•	•	•	•	•	•	•	•			
Edge 640, 640C, 640N				•	•	•	•	•	•	•		
Edge 680, 680C, 680N				•	•	•	•	•	•	•	•	
Edge 840 ¹				•	•	•	•	•	•	•		
Edge 2000 ¹							•	•	•	•	•	•
Edge 3400, 3400C					•	•	•	•	•	•	•	
Edge 3800, 3800C							•	•	•	•	•	•
Edge 3810							•	•	•	•	•	•

1. End of sale: <https://kb.vmware.com/s/article/79753>

Software support levels

Software Support Plans	Basic	Production	Premier
Call center	24x7 (Sev1) 12x5 (Sev2, Sev3, Sev4)	24x7 (Sev1) 12x5 (Sev2, Sev3, Sev4)	24x7 (Sev1, Sev2) 12x5 (Sev3, Sev4)
Response time	Sev1: within 1 hour Sev2: within 6 hours Sev3: within 12 hours Sev4: not applicable	Sev1: within 30 mins Sev2: within 4 hours Sev3: within 8 hours Sev4: within 24 hours	Sev1: within 30 mins Sev2: within 2 hours Sev3: within 4 hours Sev4: within 12 hours Sev5: per schedule
Software maintenance	Yes	Yes	Yes
Federal support	-	Yes	Yes

Hardware replacement services

VMware includes hardware replacement services with each purchase or rental of a VMware SD-WAN Edge device. For more information, refer to the [Hardware Replacement Services](#) datasheet.

Physical edge specifications (1/2)

Performance and scale

Edge	510, 510N	510-LTE	520*	520v*	540*	610, 610C, 610N	610-LTE	620, 620C, 620N
Max throughput (1300-byte) ²	200 Mbps	200 Mbps	200 Mbps	200 Mbps	1 Gbps	350 Mbps	350 Mbps	1.5 Gbps
Max throughput (IMIX) ³	100 Mbps	100 Mbps	100 Mbps	100 Mbps	500 Mbps	200 Mbps	200 Mbps	750 Mbps
Small (64-byte) ⁴	30 Mbps	30 Mbps	30 Mbps	30 Mbps	150 Mbps	40 Mbps	40 Mbps	200 Mbps
Max tunnel scale	50	50	50	50	100	50	50	100
Flow per second	2,400	2,400	2,400	2,400	4,800	2,400	2,400	4,800
Max concurrent flows	240K	240K	240K	240K	480K	240K	240K	480K
Max number of routes	100K	100K	100K	100K	100K	100K	100K	100K
Max segments	128	128	128	128	128	128	128	128

Enhanced HA link performance

Edge	510, 510N	510-LTE	520*	520v*	540*	610, 610C, 610N	610-LTE	620, 620C, 620N
Max throughput (IMIX) across EHA Link	90 Mbps	90 Mbps	100 Mbps	100 Mbps	500 Mbps	200 Mbps	200 Mbps	500 Mbps

Connectivity

Edge	510, 510N	510-LTE	520*	520v*	540*	610, 610C, 610N	610-LTE	620, 620C, 620N
LAN / WAN 1G RJ-45	4	4	2	2	2	6	6	6
LAN / WAN 1G SFP			2	2	2	2	2 ⁵	2 ⁵
L2 Switching Only RJ-45			8	8	8			
Integrated Wi-Fi	Yes (except 510N)	Yes	Yes	Yes	Yes	Yes (except 610N)	Yes	Yes (except 620N)
Integrated LTE		Yes ⁶					Yes	
USB ports (3G/4G LTE)	2 ^(2.0)	2 ^(2.0)	2 ^(2.0) + 2 ^(3.0)	2 ^(2.0) + 2 ^(3.0)	2 ^(2.0) + 2 ^(3.0)	2 ^(3.0)	2 ^(3.0)	2 ^(3.0)

Memory, storage, and third party VNFs

Edge	510, 510N	510-LTE	520*	520v*	540*	610, 610C, 610N	610-LTE	620, 620C, 620N
System memory (RAM)	4 GB	4 GB	4 GB	8 GB	8 GB	4 GB	4 GB	8 GB
System flash	8 GB	8 GB	8 GB	8 GB	8 GB	16 GB	16 GB	16 GB
System storage				64 GB (SSD)				120 GB (SSD)
VNF capable				Yes				Yes (3.4.3)

*End of Sale announced for Edge 520, 520v, 540, 840, and 2000: <https://kb.vmware.com/s/article/79753>

Dimension, power, environment, and reliability

Edge	510, 510N	510-LTE	520*	520v*	540*	610, 610C, 610N, 610-LTE	620, 620C, 620N
Cooling	Fan-less	Fan-less	Fan-less	with Fan	with Fan	Fan-less	with Fan
Mounting	Desktop / Wall-mount / 19-inch rackmount						
Size (W x D x H) in mm	206 x 180 x 39.7 mm		206 x 180 x 51 mm			206 x 200 x 52 mm	
Unit Weight	2.0 lbs.		2.6 lbs.			2.9 lbs.	3.1 lbs.
Gross Weight*	5 lbs.		6 lbs.			6 lbs.	
Power Supply	External: AC						
AC input	Voltage: 100 V to 240 V auto-ranging, Frequency: 50 Hz to 60 Hz						
Power Load (Typical / Max)	15W / 40W	15W / 40W	25W/45W	30W/45W	30W/50W	16W/26W	20W/30W
Operating conditions	Temperature (0 °C to 40 °C), Humidity (5% to 85%), Altitude (5,000 m)						
Non-operating conditions	Temperature (-40 °C to 70 °C), Humidity (5% to 95%), Altitude (5,000 m)						
MTBF (25 °C ambient temperature) ⁷	40.6 yrs.	40.6 yrs.	22.9 yrs.	22.8 yrs.	22.8 yrs.	22.8 yrs.	

*Gross weight is total weight of shipment package including unit, power adaptor, AC cord, wall mount brackets, packaging

2. Maximum performance based on large packet (1300-byte) payload with AES-128 encryption and DPI turned on
3. Internet traffic (IMIX) performance based on average packet size of 417-byte payload with AES-128 encryption and DPI turned on
4. Small packet performance based on 64-byte packet size payload with AES-128 encryption and DPI turned on
5. 620, 620C, and 620N support SFP+ 1/10Ge modules
6. 510-LTE supports additional 2 LTE interfaces through USB for 3 concurrent active interfaces
7. MTBF based on Telcordia SR-332 methodology; excludes system fans in the calculation

Physical edge specifications (2/2)

Performance and scale⁸

Edge	640, 640C, 640N	680, 680C, 680N	840*	2000*	3400, 3400C	3800, 3800C	3810
Max throughput (1,300-byte) ⁹	3 Gbps	6 Gbps	4 Gbps	10 Gbps	7 Gbps	10 Gbps	10 Gbps
Max throughput (IMIX) ¹⁰	1 Gbps	2 Gbps	1.5 Gbps	5 Gbps	2.5 Gbps	5 Gbps	5 Gbps
Small (64-byte) ¹¹	250 Mbps	500 Mbps	400 Mbps	1 Gbps	650 Mbps	1 Gbps	1 Gbps
Max tunnel scale	400	800	400	6,000	4,000	6,000	6,000
Flow per second	19,200	19,200	19,200	38,400	38,400	38,400	38,400
Max concurrent flows	1.9M	1.9M	1.9M	1.9M	1.9M	1.9M	1.9M
Max number of routes	100K	100K	100K	100K	100K	100K	100K
Max segments	128	128	128	128	128	128	128

Enhanced HA link performance

Edge	640, 640C, 640N	680, 680C, 680N	840*	2000*	3400, 3400C	3800, 3800C	3810
Max throughput (IMIX) across EHA Link	800 Mbps	800 Mbps	800 Mbps	800 Mbps	800 Mbps	800 Mbps	800 Mbps

Maximum Edge throughput when a firewall VNF is actively service chained:

Edge	620, 620C, 620N	640, 640C, 640N	680, 680C, 680N	840*	3400, 3400C	3800, 3800C	3810
Max. throughput with FW VNF (1300-byte)	300 Mbps	600 Mbps	1 Gbps	1 Gbps	2 Gbps	3 Gbps	3 Gbps

Edge performance with Edge Network Intelligence enabled:

- For the Edge 500, 510/510N, 520, and 610/610C/610N, maximum throughput is obtainable with analytics enabled.
- For all other models, there is a performance impact of up to 20% with analytics enabled. This impact will be reduced in the subsequent releases.
- Flow capacity is reduced by up to half with analytics enabled due to the additional processing and memory required for analysis. This impact will be reduced in the subsequent releases.

Connectivity

Edge	640, 640C, 640N	680, 680C, 680N	840*	2000*	3400, 3400C	3800, 3800C	3810
LAN / WAN 1G RJ-45	6	6	6	6	6	6	6
LAN / WAN 1G/10G SFP+	2	2	2	2	4	4	8
Integrated Wi-Fi	Yes (except 640N)	Yes (except 680N)					
USB ports (3G/4G LTE)	2 ^(3.0)	2 ^(3.0)	2 ^(3.0)	2 ^(2.0) + 2 ^(3.0)	2 ^(3.0)	2 ^(3.0)	2 ^(3.0)

Memory, storage, and third party VNFs

Edge	640, 640C, 640N	680, 680C, 680N	840*	2000*	3400, 3400C	3800, 3800C	3810
System memory (RAM)	32 GB	32 GB	32 GB	32 GB	32 GB	32 GB	32 GB
System flash	16 GB	16 GB	n/a	n/a	n/a	n/a	n/a
System storage	120 GB (SSD)	120 GB (SSD)	100 GB (SSD)	100 GB (SSD)	256 GB (SSD)	256 GB (SSD)	256 GB (SSD)
VNF capable	Yes (3.4.3)	Yes (3.4.3)	Yes		Yes	Yes	Yes

Dimension, power, environment, and reliability

Edge	640, 640C, 640N	680, 680C, 680N	840*	2000*	3400, 3400C	3800, 3800C	3810
Mounting	Desktop/Wall-mount/RMK		1RU Rack Mounts				
Size (W x D x H) in mm	206 x 200 x 52		437 x 249 x 43	437 x 650 x 43	434 x 381 x 44		
Unit Weight	3.3 lbs.		12 lbs.	23.5 lbs.	13.8 lbs.	15.7 lbs.	
Gross Weight*	6.0 lbs.		16 lbs.	30 lbs.	25 lbs.		
Power supply	External: AC		Internal: AC				
Redundant power supply	No	No	No	Yes (1+1)	Yes (1+1)		
AC input	Voltage: 100 V to 240 V auto-ranging, Frequency: 50 Hz to 60 Hz						
Power load (Typical / Max)	35W / 120W	40W / 120W	40W/70W	150W/200W	165W/400W	200W/400W	
Operating temperature	10 °C to 40 °C		10 °C to 40 °C	10 °C to 35 °C	0 °C to 45 °C		
Operating humidity	5% to 85%		5% to 85%	5% to 85%	5% to 85%		
Operating altitude	5,000 m		5,000 m	5,000 m	3,048 m		
Non-operating conditions	40 °C to 70 °C		-40 °C to 70 °C	-40 °C to 70 °C	-40 °C to 70 °C		
Non-operating humidity	5% to 95%		5% to 95%	5% to 95%	5% to 95%		
Non-operating altitude	5,000 m		5,000 m	5,000 m	10,688 m		
MTBF (25 °C ambient temperature)	22.8 years		11.5 years	7.0 years	17.1 years		

*Gross weight is total weight of shipment package including unit, power adaptor, AC cord, wall mount brackets, packaging

Hardware accessories

Mounting Brackets and Rails

Edge Model	Included in box	Additional Options	Part Number
520, 520v, 540*		2RU Rack Mount shelf	VC-EDG-RMB-P
510/510-LTE, 6x0	Wall mount bracket	2RU Rack Mount shelf	VC-EDG-RMB-P
840*	Bracket rack mounts		
2000*	4-post rail kit		
3x00	2-post rail kit	4-post rail kit	Dell P/N: 770-BCGP

*End of Sale announced for Edge 520, 520v, 540, 840, and 2000: <https://kb.vmware.com/s/article/79753>

Other accessories included in box

Edge	Power Cable	Power Adapter + Cable	Ethernet Cable	Quick Start Guide
Edge 510, 510N		•	•	•
Edge 510-LTE		•	•	•
Edge 520*		•	•	•
Edge 520V*		•	•	•
Edge 540*		•	•	•
Edge 610, 610C, 610N		•		•
Edge 610-LTE		•		•
Edge 620, 620C, 620N		•		•
Edge 640, 640C, 640N		•		•
Edge 680, 680C, 680N	• 1 power cable			•
Edge 840*	• 2 power cables			•
Edge 2000*	• 2 power cables			•
Edge 3400, 3400C	• 2 power cables			•
Edge 3800, 3800C	• 2 power cables			•
Edge 3810	• 2 power cables			•

Wireless specifications

Wireless LAN (Wi-Fi) specifications

Wi-Fi Capabilities	510, 510-LTE, 610, 610C, 610-LTE, 620, 620C, 640, 640C, 680, 680C	520, 520v, 540*
Wi-Fi standards	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac
Frequency bands (GHz)**	2.412~2.472, 5.150~5.825	2.400-2.4835, 5.150-5.250, 5.725-5.850
Antenna (max data rate)	2x2 MIMO	3x3 MIMO
Max simultaneous SSIDs	4	4
Max transmit power**	21 dBm for 2.4 GHz 20 dBm for 5 GHz	20 dBm for 2.4 GHz and 5 GHz

** Country-dependent; frequency and power limits are set once unit is activated

Wireless WAN (3G / 4G / LTE) specifications

3G / 4G / LTE Capabilities	510-LTE-NAEU	510-LTE-AP	610-LTE-AM	610-LTE-RW
Modem	Sierra Wireless EM7455	Sierra Wireless EM7430	Sierra Wireless EM7511	Sierra Wireless EM7565
Geography	North America & Europe	ASIA, ANZ, LATAM	North America	Rest of world
LTE category	Cat-6	Cat-6	Cat-12	Cat-12
Carrier aggregation	Yes	Yes	Yes	Yes
3G fallback	HSPA+	HSPA+	HSPA+	HSPA+
SIM slots	2 (only 1 active)	2 (only 1 active)	Dual SIM single standby	Dual SIM single standby
LTE bands	1, 2, 3, 4, 5, 7, 8, 12, 13, 20, 25, 26, 29, 30, 41	1, 3, 5, 7, 8, 11, 18, 19, 21, 28, 38, 39, 40, 41	B1, B2, B3, B4, B5, B7, B8, B9, B12, B13, B14, B18, B19, B20, B26, B29, B30, B32, B41, B42, B43, B46, B48, B66	B1, B2, B3, B4, B5, B7, B8, B9, B12, B13, B18, B19, B20, B26, B28, B29, B30, B32, B41, B42, B43, B46, B48, B66
Antennas	Main and AUX (via SMA connectors)			
Theoretical speeds ²	300 M Down / 50 Up	300 M Down / 50 Up	600 M Down / 150 Up	600 M Down / 150 Up

*End of Sale announced for Edge 520, 520v, 540, 840, and 2000: <https://kb.vmware.com/s/article/79753>

Virtual Edge specifications

Private Cloud (Hypervisors)

Device	Max. Throughput		Max. Number of Tunnels*	Flows/sec	Max. Concurrent Flows	Max. Number of Routes	Max. Number of Segments*
ESXi Virtual Edge (2-core, VMXNET3)	2 Gbps (1,300-byte) 800 Mbps (IMIX) 200 Mbps (64-byte)		50	2400	240K	35K	128
KVM Virtual Edge (2-core, Linux Bridge)	500 Mbps (1,300-byte) 200 Mbps (IMIX) 70 Mbps (64-byte)		50	2400	240K	35K	128
KVM Virtual Edge (2-core, SR-IOV)	1.25 Gbps (1,300-byte) 600 Mbps (IMIX) 100 Mbps (64-byte)		50	2400	240K	35K	128
ESXi Virtual Edge (4-core, VMXNET3)	2 Gbps (1,300-byte) 1.5 Gbps (IMIX) 450 Mbps (64-byte)		400	19200	1.9M	35K	128
ESXi Virtual Edge (4-core, SR-IOV)	2 Gbps (1,300-byte) 1.5 Gbps (IMIX) 450 Mbps (64-byte)		400	19200	1.9M	35K	128
KVM Virtual Edge (4-core, Linux Bridge)	1 Gbps (1,300-byte) 350 Mbps (IMIX) 100 Mbps (64-byte)		400	4800	480K	35K	128
KVM Virtual Edge (4-core, SR-IOV)	2 Gbps (1,300-byte) 1 Gbps (IMIX) 230 Mbps (64-byte)		400	19200	1.9M	35K	128
ESXi Virtual Edge (8-core, VMXNET3)	5 Gbps (1,300-byte) 2.5 Gbps (IMIX) 600 Mbps (64-byte)		800	38400	1.9M	35K	128
ESXi Virtual Edge (8-core, SR-IOV)	Version 3.4 or older 5 Gbps (1300-byte) 2.5 Gbps (IMIX) 600 Mbps (64-byte)	Version 4.0 19 Gbps (1300-byte) 4 Gbps (IMIX) 1 Gbps (64-byte)	800	38400	1.9M	35K	128
KVM Virtual Edge (8-core, SR-IOV)	Version 3.4 or older 3.5 Gbps (1300-byte) 220 Mbps (64-byte) 1 Gbps (IMIX)	Version 4.0 9 Gbps (1300-byte) 800 Mbps (64-byte) 3 Gbps (IMIX)	800	38400	1.9M	35K	128

Edge configuration

	2 vCPU	4 vCPU	8 vCPU	10 vCPU
Minimum memory (DRAM)	4 GB	8 GB	8 GB	8 GB
Minimum storage	8 GB	8 GB	8 GB	8 GB
Supported hypervisors	Software version 3.4: ESXi 6.0, 6.5U1, 6.7U1 KVM Ubuntu 14.04 LTS or 16.04 Software version 4.0 and above: ESXi 6.5U1, 6.7U1, 7.0 KVM Ubuntu 16.04 and 18.04			
Supported public cloud	AWS, Azure, GCP, Alibaba			
Support network I/O	SR-IOV, VirtIO, VMXNET3			
Recommended host settings	<ul style="list-style-type: none"> • CPUs at 2.0 GHz or higher • CPU Instruction set: <ul style="list-style-type: none"> - AES-NI - AVX2 or AVX512 - SSE3, SSE4, and RDTSC instruction sets • Hyper-threading disabled 			

Note: Performance was obtained using an Intel® Xeon® CPU E5-2683 v4 @ 2.10 GHz (AES-NI)

Public cloud

Amazon Web Services (AWS)

AWS Instance types	c5.large	c5.xlarge	c5.2xlarge
Maximum throughput	100 Mbps (1300-byte) 50 Mbps (IMIX) 15 Mbps (64-byte)	200 Mbps (1300-byte) 100 Mbps (IMIX) 30 Mbps (64-byte)	7 Gbps (1300-byte) 2.4 Gbps (IMIX) 390 Mbps (64-byte)
Maximum tunnels	50	400	800
Flows per second	1,200	2,400	4,800
Max. concurrent flows	125,000	250,000	550,000
Max number of routes	35,000	35,000	35,000
Maximum segments	128	128	128

Note: c5.2xlarge performance and scale numbers are based on AWS Enhanced Networking (ENA SR-IOV drivers) 'enabled'

Microsoft Azure

Azure VM Series	D2d v4	D4d v4	D8d v4
Maximum throughput	100 Mbps (1,300-byte) 50 Mbps (IMIX) 15 Mbps (64-byte)	200 Mbps (1,300-byte) 100 Mbps (IMIX) 30 Mbps (64-byte)	1 Gbps (1,300-byte) 450 Mbps (IMIX) 100 Mbps (64-byte)
Maximum tunnels	50	400	800
Flows per second	1,200	2,400	4,800
Max. concurrent flows	125,000	250,000	550,000
Max number of routes	35,000	35,000	35,000
Maximum segments	128	128	128

*Azure Accelerated Networking is not supported as of the latest release and is planned for support in an upcoming VMware SD-WAN release

- 8. VMware SD-WAN Edges support clustering for multi-gigabit performance
- 9. Maximum performance based on large packet (1300-byte) payload with AES-128 encryption and DPI turned on
- 10. Internet traffic (IMIX) performance based on average packet size of 417-byte payload with AES-128 encryption and DPI turned on
- 11. Small packet performance based on 64-byte packet size payload with AES-128 encryption and DPI turned on
- 12. The 510 platform is limited to maximum 200 Mbps of aggregate throughput

Edge platform and software release matrix

Edge / Software Version	2.5.x	3.2.x	3.3.x	3.4.X	4.0.0	4.1.0	4.2.X	4.3.X	4.4.0
510	•	•	•	•	•	•	•	•	•
510-LTE		• (3.2.1)	•	•	•	•	•	•	•
520*	•	•	•	•	•	•	•	•	•
520v*	•	•	•	•	•	•	•	•	•
540*	•	•	•	•	•	•	•	•	•
610			•	•	•	•	•	•	•
620				•	•	•	•	•	•
640				•	•	•	•	•	•
680				•	•	•	•	•	•
840*	•	•	•	•	•	•	•	•	•
1000	•	•	•	•	•	•	•	•	•
2000*	•	•	•	•	•	•	•	•	•
3400			•	•	•	•	•	•	•
3800			•	•	•	•	•	•	•
3810							•	•	•
510N, 610N, 620N, 640N, 680N				• (3.4.6)			• (4.2.2)	• (4.3.0) (4.3.1)	

*End of Sale announced for Edge 520, 520v, 540, 840, and 2000: <https://kb.vmware.com/s/article/79753>

Regulatory and compliance certifications

EMC	FCC (US) CE (Europe) R-Mark (Japan) SRRC (China) KCC (Korea) NCC (Taiwan) ICES-003 EN 55022 CISPR 22 AS/NZS 3548 VCCI CNS 13438 EN 300-386 EN 61000 (Immunity) EN 55024 CISPR 24 EN 50082-1 CISPR 35 (Edge 510/510-LTE/6x0/3x00 Only) EN 55035 (Edge 510/510-LTE/6x0/3x00 Only)
Safety	UL 60950-1 UL 62368-1 CAN/CSA C22.2 EN 60950-1 EN 62368-1 AS/NZS 60950-1 AS/NZS-62368-1 IEC 60950-1 IEC 62368-1 GB-4943 (CCC)
RoHS	Compliant

Document Log

New or Updated Topic	Section	Date
Edge 2000 Safety Certifications	Regulatory and Compliance Certifications	02/10/2021
Correction: Premium Subscription	Software Subscriptions Editions	02/16/2021
Removed Edge 610-LTE	Edges section	02/25/2021
Tunnel Count and Flows/second	Edge Specifications	03/18/2021
Supported VM on Azure	Public Cloud	05/06/2021
Software Editions	Software Subscriptions Editions	05/24/2021
VNF supported Edges	Memory, Storage, and Third Party VNFs	05/24/2021
Maximum number of Data Segments	Software Subscription Editions	06/02/2021
New releases	Edge platform and software release matrix	06/10/2021
New Edge hardware models; maximum number of segments; added Edge 610-LTE	Edge Specifications	08/05/2021