VMware SD-WAN

VMware SD-WAN Edge platform specifications

VMware SD-WAN™ is a cloud-delivered solution to ensure high application performance and availability while lowering networking costs. VMware SD-WAN enables a reliable and resilient wide area network (WAN), with a choice of connection types, including Multiprotocol Label Switching (MPLS), LTE, Wi-Fi, and broadband. It combines multiple links and uses packet steering to select the best path for each application, ensuring consistent performance and overcoming quality issues and outages. 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 VMware SD-WAN Dynamic Multipath Optimization™ (DMPO) and deep application recognition aggregates multiple links and steers traffic over optimal links to other VMware SD-WAN Edges in branch offices, private data centers, campuses, and headquarters.

• They can easily integrate with the existing network via routing protocols and benefit from dynamic learning and automation. VMware SD-WAN Edges deliver highly available deployment with a redundancy protocol.

• They can host virtual network function (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.

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SD-WAN™

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

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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 DMPO, cloud virtual private network (VPN), and VMware SD-WAN Multisource Inbound Quality of Service between global cloud services (software as a service (Saas), infrastructure as a service (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.

Using VMware SD-WAN's zero touch deployment capability, VMware SD-WAN can be quickly installed. The VMware SD-WAN Edge is shipped to the branch office where non-IT personnel can plug in power and a few cables. Activation, configuration, and ongoing management are all handled in the VMware SD-WAN Orchestrator.
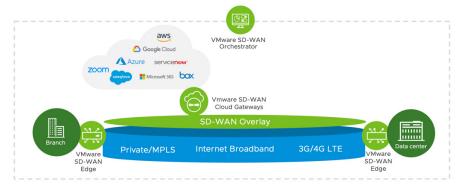

FIGURE 1: VMware SD-WAN

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 (ML) 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.

More details on VMware Edge Network Intelligence can be found here:

https://wan.velocloud.com/rs/098-RBR-178/images/sdwan-927-edge-net-intell-ds-0920.pdf

Software features

Category	Features
AAA	RADIUS, local authentication and authorization, multitenant 3 Tier role-based access control (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, VMware SD-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/IaaS	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	WiFi 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

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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.

Feature	Standard Subscription	Enterprise Subscription	Premium Subscription
VMware SD-WAN Orchestrator	•	•	•
DMPO	•	•	•
Max number of data segments	1	16	16
Max number of Edges supported	50	Unlimited	Unlimited
Partner gateway support (MSP/SP; SaaS access only in Premium)	•	•	•
Direct Tunnel from Branch to Cloud Security Service	•	•	•
Advanced features: dynamic routing (multicast/Open Shortest Path First (OSPF)/Border Gateway Protocol (BGP), dynamic mesh VPN, hub clustering, customizable business policy		•	•
Virtual services orchestration for next generation firewall deployments on the VMware SD-WAN Edges		•	•
Separate lower-bandwidth tier of 10, 30, or 50 Mbps		•	•
VMware SD-WAN Gateway services • Cloud Gateway Service for SaaS • Cloud VPN (Branch Edge, Gateway, Branch Edge)			•
Cloud Gateway Service for Non-VeloCloud Site (Branch, Gateway, NVS) * E.g., legacy data center, IaaS location, or cloud security service		Add-on	•
PCI certified service		Add-on	Add-on
Software upgrade	•	•	•
Upgradeable to a higher edition	•	•	N/A
Mixed editions		• (with premium)	• (with enterprise)

VMware SD-WAN is also licensed by bandwidth tier; please see bandwidth tier to platform 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	•	•	•	•	•							
Edge 510-LTE	•	•	•	•	•							
Edge 520*	•	•	•	•	•							
Edge 520v*	•	•	•	•								
Edge 540*				•	•	•	•	•	•			
Edge 610	•	•	•	•	•	•						
Edge 620				•	•	•	•	•	•			
Edge 640				•	•	•	•	•	•	•		
Edge 680				•	•	•	•	•	•	•	•	
Edge 840*				•	•	•	•	•	•	•[1]		
Edge 2000*							•	•	•	•	•	•
Edge 3400					•	•	•	•	•	•	•	
Edge 3800							•	•	•	•	•	•

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

1. Maximum SD-WAN performance without VNF on Edge 840 is 4 Gbps; however, the maximum allowed bandwidth license is 2 Gbps

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

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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

(https://wan.velocloud.com/rs/098-RBR-178/images/sdwan-882-hardware-replace-svc-ds-0420.pdf)

Physical edge specifications (1/2)

Performance and scale

Edges	510	510-LTE	520*	520v*	540*	610	620
Maximum throughput (1300-byte)[2]	200 Mbps	200 Mbps	200 Mbps	200 Mbps	1 Gbps	350 Mbps	1.5 Gbps
Maximum throughput (IMIX)[3]	100 Mbps	100 Mbps	100 Mbps	100 Mbps	500 Mbps	200 Mbps	750 Mbps
Small (64-byte)[4]	30 Mbps	30 Mbps	30 Mbps	30 Mbps	150 Mbps	40 Mbps	200 Mbps
Maximum tunnel scale	25	25	50	50	100	50	100
Flow per second	2,400	2,400	2,400	2,400	4,800	2,400	4,800
Max concurrent flows	240K	240K	240K	240K	480K	240K	480K
Max number of routes	100K	100K	100K	100K	100K	100K	100K
Maximum segments	16	16	16	16	16	16	16

Enhanced HA link performance

Edges	510	510-LTE	520*	520v*	540*	610	620
Maximum throughput (IMIX) across EHA Link	90Mbps	90Mbps	100Mbps	100Mbps	500Mbps	200Mbps	500Mbps

Connectivity

Edges	510	510-LTE	520*	520v*	540*	610	620
LAN / WAN 1G RJ-45	4	4	2	2	2	6	6
LAN / WAN 1G SFP			2	2	2	2	2[5]
L2 Switching Only RJ-45			8	8	8		
Integrated Wi-Fi	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integrated LTE		Yes[6]					
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)

Memory, storage, and third party VNFs

Edges	510	510-LTE	520*	520v*	540*	610	620
System memory (RAM)	4 GB	4 GB	4 GB	8 GB	8 GB	4 GB	8 GB
System flash	8 GB	8 GB	8 GB	8 GB	8 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

Edges	510	510-LTE	520*	520v*	540*	610	620
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		206 x 180 x 51			206 x 200 x 52	
Unit Weight	2.0 lbs.		2.6 lbs.			2.9 lbs.	3.1 lbs.
Gross Weight*	5 lbs.		6 lbs.			6 lbs.	6 lbs.
Power Supply	External: AC						
AC input	Voltage: 100v to 240v auto-ranging, Frequency: 50Hz to 60Hz						
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 years	

*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 supports 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 scale[8]

Edges	640	680	840*	2000*	3400	3800
Maximum throughput (1300-byte)[9]	3 Gbps	6 Gbps	4 Gbps	10 Gbps	7 Gbps	10 Gbps
Maximum throughput (IMIX)[10]	1 Gbps	2 Gbps	1.5 Gbps	5 Gbps	2.5 Gbps	5 Gbps
Small (64-byte)[11]	250 Mbps	500 Mbps	400 Mbps	1 Gbps	650 Mbps	1 Gbps
Maximum tunnel scale	400	800	400	6,000	4,000	6,000
Flow per second	19,200	19,200	19,200	38,400	38,400	38,400
Max concurrent flows	1.9M	1.9M	1.9M	1.9M	1.9M	1.9M
Max number of routes	100K	100K	100K	100K	100K	100K
Maximum segments	16	16	16	16	16	16

Enhanced HA link performance

Edges	640	680	840*	2000*	3400	3800
Maximum throughput (IMIX) across EHA Link	800Mbps	800Mbps	800Mbps	800Mbps	800Mbps	800Mbps

Note: The Edges have a maximum throughput when a firewall VNF is actively service chained:

Edges	520v*	620	640	680	840*
Max. throughput with FW VNF	100 Mbps	100 Mbps	350 Mbps	500 Mbps	500 Mbps

Edge Performance with Edge Network Intelligence enabled:

• For the Edge 500, 510, 520 and 610, 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.

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Connectivity

Edges	640	680	840*	2000*	3400	3800
LAN / WAN 1G RJ-45	6	6	6	6	6	6
LAN / WAN 1G/10G SFP+	2	2	2	2	4	4
Integrated Wi-Fi	Yes	Yes				
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)

Memory, storage, and third party VNFs

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

Dimension, power, environment, and reliability

Edges	640	680	840*	2000*	3400	3800
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.	25 lbs.
Power supply	External: AC		Internal: AC			
Redundant power supply	No	No	No	Yes (1+1)	Yes (1+1)	Yes (1+1)
AC input	Voltage: 100v to 240v auto-ranging, Frequency: 50Hz to 60Hz					
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	5,000m		5,000m	5,000m	3,048m	
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	5,000m		5,000m	5,000m	10,688m	
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		•	•	•
Edge 510-LTE		•	•	•
Edge 520*		•	•	•
Edge 520v*		•	•	•
Edge 540*		•	•	•
Edge 610		•		•
Edge 620		•		•
Edge 640		•		•
Edge 680		•		•
Edge 840*	• 1 power cable			•
Edge 2000*	• 2 power cables			•
Edge 3400	• 2 power cables			•
Edge 3800	• 2 power cables			•

Wireless specifications

Wireless LAN (Wi-Fi) specifications

Wi-Fi Capabilities	510 / 510-LTE	520 / 520v / 540*	6X0
Wi-Fi standards	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac	802.11 a/b/g/n/ac
Frequency bands (GHz)	2.400-2.4835, 5.150-5.250, 5.725-5.850		
Antenna (max data rate)	2x2 MIMO	3x3 MIMO	2x2 MIMO
Max simultaneous SSIDs	4	4	4
Max transmit power	20dBm for 2.4GHz and 5GHz		

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

3G / 4G / LTE Capabilities	510-LTE-NAEU	510-LTE-AP
Modem	Sierra Wireless EM7455	Sierra Wireless EM7430
Geography	North America & Europe	Asia, ANZ, LATAM
LTE category	Cat-6	Cat-6
Carrier aggregation	Yes	Yes
3G fallback	HSPA+	HSPA+
SIM slots	2 (only 1 active)	2 (only 1 active)
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
Antennas	Main and AUX (via SMA connectors)	
Theoretical speeds[12]	300 M Down / 50 Up	300 M Down / 50 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 (1300-byte) 800 Mbps (IMIX) 200 Mbps (64-byte)		25	2400	240K	35K	16
KVM Virtual Edge (2-core, Linux Bridge)	500 Mbps (1300-byte) 200 Mbps (IMIX) 70 Mbps (64-byte)		25	2400	240K	35K	16
KVM Virtual Edge (2-core, SR-IOV)	1.25 Gbps (1300-byte) 600 Mbps (IMIX) 100 Mbps (64-byte)		25	2400	240K	35K	16
ESXi Virtual Edge (4-core, VMXNET3)	2 Gbps (1300-byte) 1.5 Gbps (IMIX) 450 Mbps (64-byte)		400	19200	1.9M	35K	16
ESXi Virtual Edge (4-core, SR-IOV)	2 Gbps (1300-byte) 1.5 Gbps (IMIX) 450 Mbps (64-byte)		400	19200	1.9M	35K	16
KVM Virtual Edge (4-core, Linux Bridge)	1 Gbps (1300-byte) 350 Mbps (IMIX) 100 Mbps (64-byte)		100	4800	480K	35K	16
KVM Virtual Edge (4-core, SR-IOV)	2 Gbps (1300-byte) 1 Gbps (IMIX) 230 Mbps (64-byte)		400	19200	1.9M	35K	16
ESXi Virtual Edge (8-core, VMXNET3)	5 Gbps (1300-byte) 2.5 Gbps (IMIX) 600 Mbps (64-byte)		6000	38400	1.9M	35K	16
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 10 Gbps (1300-byte) 4 Gbps (IMIX) 1 Gbps (64-byte)	6000	38400	1.9M	35K	16
KVM Virtual Edge (8-core, Linux Bridge)	1 Gbps (1300-byte) 500 Mbps (IMIX) 180 Mbps (64-byte)		100	4800	480K	35K	16

| KVM Virtual Edge (8-core, SR-IOV) | Version 3.4 or older 3.5 Gbps (1300-byte) 1 Gbps (IMIX) 220 Mbps (64-byte) | Version 4.0 9 Gbps (1300-byte) 3 Gbps (IMIX) 800 Mbps (64-byte) | 6000 | 38400 | 1.9M | 35K | 16 |

Public cloud

Cloud Provider Instance Type mode	Max. Throughput	Max. Number of Tunnels*	Flows/ sec	Max. Concurrent Flows	Max. Number of Routes	Max. Number of Segments*
AWS C5.2xlarge Enhanced Networking enabled (ENA DPDK drivers)	7 Gbps (1300-byte) 2.4 Gbps (IMIX) 400 Mbps (64-byte)	3000	19200	1.9M	35K	16
Azure D8d v4 Non-Accelerated Networking*	1 Gbps (1300-byte) 500 Mbps (IMIX) 180 Mbps (64-byte)	100	4800	480K	35K	16

*Azure Accelerated Networking is planned for support in an upcoming VMware SD-WAN release

	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	
Supported hypervisors	ESXi 6.0, 6.5U1, 6.7U1, KVM Ubuntu 14.04 LTS or 16.04			
Supported public cloud	AWS, Azure, GCP, Alibaba			
Support network I/O	SR-IOV, VirtIO, VMXNET3			
Recommended host settings	• CPUs at 2.0 GHz or higher • CPU support for AES-NI, 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)

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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

Software Version	Edge 510	Edge 510-LTE	Edge 520*	Edge 520v*	Edge 540*	Edge 610	Edge 620	Edge 640	Edge 680	Edge 840*	Edge 1000	Edge 2000*	Edge 3400	Edge 3800
2.5.x	•		•	•	•					•	•	•		
3.2.x	•	• (3.2.1)	•	•	•					•	•	•		
3.3.x	•	•	•	•	•	•				•	•	•	•	•
3.4.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4.0.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4.1.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4.2.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•

*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)[13]
	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 (except Edge 840/2000)
	CAN/CSA C22.2
	EN 60950-1
	EN 62368-1 (except Edge 840/2000)
	AS/NZS 60950-1
	AS/NZS-62368-1 (except Edge 840/2000)
	IEC 60950-1
	IEC 62368-1 (except Edge 840/2000)
	GB-4943 (CCC)
RoHS	Compliant

13. Not applicable for 2000, 3400, 3800. Also 6x0s series not certified for SRRC China as of today.