



# Features and Scalability Information for Cisco Nexus 1000V

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This document provides information about the supported features and configuration scale limits for Cisco Nexus 1000V for VMware vSphere, Cisco Nexus 1000V for Microsoft Hyper-V, and Cisco Nexus 1000V for KVM.

## Cisco Nexus 1000V Features Support

The following table lists the features supported in the latest release of Cisco Nexus 1000V for each hypervisor platform. Features that do not apply are marked as *N/A*.

Table 1. Features Support

Feature	Cisco Nexus 1000V for VMware vSphere	Cisco Nexus 1000V for Microsoft Hyper-V	Cisco Nexus 1000V for KVM
	Release 5.2(1)SV3(4.1)	Release 5.2(1)SM3(2.1)	Release 5.2(1)SK3(2.2b)
Installation and Upgrade Features			
ISSU	Yes	Yes	Yes
Switch-Only Upgrade	Yes	Yes	Yes
Combined Upgrade—Cisco Nexus 1000V and the hypervisor	Yes	No	No
Mixed Mode Upgrade Support	Yes	No	No
Switching Features			
IEEE 802.1Q Tagging	Yes	Yes	Yes
Internet Group Management Protocol—IGMPv2, IGMPv3	Yes	Yes	Yes
Private VLANs (PVLAN)	Yes	Yes	Yes
PVLANS Cross-Host Isolation	Yes	Yes	Yes
PVLANS with Promiscuous Trunks	Yes	Yes	Yes
VM vMotion	Yes	Yes	Yes
Network vMotion	Yes	Yes	Yes
Unknown Unicast Flood Block (UUFB)	Yes	Yes	Yes
Port Security	Yes	Yes	No
Microsoft Network Load Balancing (MSNLB)	Yes	Yes	No
Redundancy Protocol Support (VRRP, HSRP, CARP, and so on)	Yes	Yes	No
VXLAN 1.0 Multicast Mode and VXLAN 1.5 Unicast Mode	Yes	Yes (Only VXLAN 1.0)	Yes

Feature	Cisco Nexus 1000V for VMware vSphere	Cisco Nexus 1000V for Microsoft Hyper-V	Cisco Nexus 1000V for KVM
	Release 5.2(1)SV3(4.1)	Release 5.2(1)SM3(2.1)	Release 5.2(1)SK3(2.2b)
VXLAN MAC Distribution	Yes	No	No
VXLAN Gateway	No	No	No
VXLAN across Data Centers (DC) with BGP Control Plane	Yes	No	No
Layer 3 Forwarding—Distributed Virtual Router	No	No	Yes
Virtualized Workload Mobility—DC to DC vMotion	Yes	No	No
Physical Switch Connectivity Features			
Port Channel vPC MAC Pinning	Yes	Yes	Yes
EtherChannel	Yes	Yes	Yes
BPDU Guard	Yes	Yes	Yes
Port Channel LACP	Yes	Yes	Yes
Port Channel vPC-HM	Yes	Yes	Yes
Network State Tracking	Yes	No	No
Traffic Management Features			
iSCSI Multipath	<b>Yes</b>	No	No
Storm Control—Broadcast, Multicast	<b>Yes</b>	No	No
Quality of Service Features			
Classification	Yes	Yes	No
Marking	Yes	Yes	No
Policing	Yes	Yes	No
Class-Based Weighted Fair Queuing	Yes	No	No
Security Features			
IP ACL and MAC ACL	Yes	Yes	Yes
802.1x Security	Yes	No	No
AAA	Yes	Yes	Yes

Feature	Cisco Nexus 1000V for VMware vSphere	Cisco Nexus 1000V for Microsoft Hyper-V	Cisco Nexus 1000V for KVM
	Release 5.2(1)SV3(4.1)	Release 5.2(1)SM3(2.1)	Release 5.2(1)SK3(2.2b)
DHCP Snooping	Yes	Yes	No
Dynamic ARP Inspection (DAI)	Yes	Yes	No
IP Source Guard (IPSG)	Yes	Yes	No
Multi-IP per MAC Support for IPSG	Yes	No	No
Cisco Trusted Security (CTS) 2.0	Yes	No	No
CTS SXPv3 Protocol Support	Yes	No	No
SGT Tagging based on Subnet IP Addresses	Yes	No	No
ACL Logging	Yes	No	No
Layer 3 Security—Encrypted VSM to VEM Communication	Yes	No	No
Monitoring Features			
SPAN	Yes	Yes	Yes
ERSPAN	Yes	Yes	Yes
Distributed NetFlow v9	Yes	Yes	Yes
Syslog	Yes	Yes	Yes
SNMP v3	Yes	Yes	Yes
SNMP Access Control List	Yes	Yes	Yes
NTP	Yes	Yes	Yes
vTracker	Yes	No	Yes
Resources Tracker	Yes	No	No
vCenter Plug-in	Yes	N/A	N/A
IPv6 Supported Features			
Port Channel	Yes	No	No
ACL	Yes	No	No
SNMP	Yes	No	No
Telnet/SSH	Yes	No	No
NTP	Yes	No	No

Feature	Cisco Nexus 1000V for VMware vSphere	Cisco Nexus 1000V for Microsoft Hyper-V	Cisco Nexus 1000V for KVM
	Release 5.2(1)SV3(4.1)	Release 5.2(1)SM3(2.1)	Release 5.2(1)SK3(2.2b)
DNS	Yes	No	No
Syslog	Yes	No	No
AAA	Yes	No	No
SVS Connection	Yes	No	No
IPv6 support between the VSM and the vCenter Server	Yes	No	No
Virtualized Network Services Features			
Cisco vPATH with Local and Remote Network Service Virtual Machine	Yes	Yes	Yes
Cisco Nexus N1110-x or Cisco Cloud Services Platform	Yes	Yes	Yes
Virtual Service Domain (VSD)	Yes	No	No
Virtualized Network Services Options			
Cisco Virtual Security Gateway (VSG)	Yes	Yes	Yes
Cisco Virtual Network Analysis Module (vNAM)	Yes	No	Yes
Daily Management Features			
Third-Party Accessible APIs	Yes	Yes	Yes
Cisco Discovery Protocol (CDP)	Yes	Yes	Yes
Network Policy Groups	Yes	Yes	Yes
IPv6 for Management	Yes	Yes	Yes
Universal Licensing	Yes	Yes	Yes
Multi-Tier Policy Groups	Yes	Yes	Yes
RADIUS and TACACS+	Yes	Yes	Yes
REST API Support	Yes	Yes	Yes
XML API Support	Yes	Yes	Yes
Load Balancing Algorithms Features			
Source Virtual Port ID	Yes	Yes	Yes

Feature	Cisco Nexus 1000V for VMware vSphere	Cisco Nexus 1000V for Microsoft Hyper-V	Cisco Nexus 1000V for KVM
	Release 5.2(1)SV3(4.1)	Release 5.2(1)SM3(2.1)	Release 5.2(1)SK3(2.2b)
Source MAC Address	Yes	Yes	Yes
Advanced Load Balancing Options	Yes	Yes	Yes
Miscellaneous Features			
Jumbo Frames	Yes	Yes	Yes
VDP and DFA	Yes	No	No

## Cisco Nexus 1000V Configuration Scale Limits

The following table lists the configuration scale limits supported in the latest release of Cisco Nexus 1000V for each hypervisor platform. Features that do not apply are marked as *N/A*; features that are not supported are marked as *N/S*.

Table 2. Configuration Scale Limits

Feature	Cisco Nexus 1000V for VMware vSphere		Cisco Nexus 1000V for Microsoft Hyper-V		Cisco Nexus 1000V for KVM	
	VEM	DVS	VEM	DVS	VEM	DVS
Hosts/DVS	N/A	250 (includes gateways)	N/A	64	N/A	128
Total vEth ports	1000	10,240	216	2048	990	12,000
Ports per port profile	1024	2048	1024	1024	1024	1024
Port profiles	6144	6144	N/A	1000	N/A	6000
Network profiles	N/A	N/A	N/A	2048 VLANs	N/A	2000 VLANs
Policy profiles	N/A	N/A	N/A	1000	N/A	512
Physical NICs	32	2000	32	512	32	2000
Physical trunks	32	2000	32	512	32	128
vEthernet trunks	32	1024	N/A	N/A	8	8
Port channels	8	1024	8	256	4	128
Active VLANs	4094	4094	2048	2048	2000	2000
VXLANs (bridge domains)	6144	6144	2000	2000	2000	2000
VXLAN trunks	32	1024	N/S	N/S	N/S	N/S
VXLAN mappings per trunk	512	N/A	N/S	N/S	N/S	N/S
VXLAN VNI	1044	6144	N/S	N/S	N/S	N/S
VTEPs	4	1024 (512 per bridge domain)	4	256	4	512
BGP peers	N/A	8 VSM	N/S	N/S	N/S	N/S
Route reflectors	N/A	2 per VXLAN control plane	N/S	N/S	N/S	N/S

Feature	Cisco Nexus 1000V for VMware vSphere		Cisco Nexus 1000V for Microsoft Hyper-V		Cisco Nexus 1000V for KVM	
	VEM	DVS	VEM	DVS	VEM	DVS
MAC addresses	32,000	N/A	32,000	N/A	32,000	32,000
MAC address per VLAN	4094	4094	4094	4094	4094	4094
DHCP IP bindings	1024	10,240	216	2000	N/S	N/S
ACLs	128	128	128	128	128	128
ACEs per ACL	128	128	128	128	128	128
ACL instances	6000	42,000  6 Instances per port	216	2048	990	4000
NetFlow policies	32,000 flows	<ul style="list-style-type: none"> <li>• 64 monitor sessions</li> <li>• 64 records</li> <li>• 64 exporters</li> </ul>	N/A	<ul style="list-style-type: none"> <li>• 64 monitor sessions</li> <li>• 64 records</li> <li>• 64 exporters</li> </ul>	1024 flows	<ul style="list-style-type: none"> <li>• 32 monitor sessions</li> <li>• 32 records</li> <li>• 32 exporters</li> </ul>
QoS policy maps	N/A	128	16	128	N/S	N/S
QoS class	N/A	1024	128	128	N/S	N/S
QoS class maps/policy maps	N/A	64	N/A	N/A	N/S	N/S
QoS instances (ingress and egress)	N/A	N/A	9000	216	2048	N/S
Multicast groups	1024	1024	64	512	1024	1024
PVLANS	512	512	512	512	N/A	512
Port security MACs	2048	24,000  5 MACs per port	216	2048  5 MACs per port	N/S	N/S
SPAN/ERSPAN sessions	64	64	4	64	64	64



Feature	Cisco Nexus 1000V for VMware vSphere		Cisco Nexus 1000V for Microsoft Hyper-V		Cisco Nexus 1000V for KVM	
	VEM	DVS	VEM	DVS	VEM	DVS
Source interfaces per session	N/A	128 vEths or 32 physical Eths or port channels	N/A	128 vEths or 32 physical Eths or port channels	N/A	128 vEths or 32 physical Eths or port channels
Source VLANs per session	N/A	32	N/A	32	N/A	32
Destination interfaces per session	N/A	32	N/A	16	N/A	32
SPAN sessions per source interface	N/A	4	N/A	4	N/A	4
Source profiles per session	N/A	16	N/A	8	N/A	16
Destination profiles per session	N/A	8	N/A	4	N/A	8
Cisco TrustSec	N/A	<ul style="list-style-type: none"> <li>• 6000 IP-SGT mappings</li> <li>• 4000 IP-Subnet-SGT mappings</li> <li>• 128 SGACLs</li> <li>• 128 ACEs per SGACL</li> <li>• 8 SXP peers</li> </ul>	N/S	N/S	N/S	N/S
802.1x veth ports	130	1000 (Maximum number of vEth ports that can be authenticated at a time)	N/A	N/A	N/A	N/A

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

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