Cisco UCS 6332, 6324, 6400, and 6536 Configuration Limits for Cisco UCS Manager, Release 4.3

First Published: 2023-09-08

Configuration Limits

The limits in this document indicate the maximum scale capability tested for the corresponding feature individually. This number is the absolute maximum currently supported by Cisco UCS Manager for the corresponding feature. When used in combination, the practical limit for each feature may be lower than the maximum limit cited in this document.

Ethernet Environment Configuration Limits

Feature	Cisco UCS 6332 Series	Cisco UCS 6324	Cisco UCS 6400 Series	Cisco UCS 6536
Active VLANs per Cisco UCS domain	3000 This is the combined total of VLANs and VSANs that can be configured on each fabric interconnect. Of that total, no more than 32 can be VSANs.	982	3000 This is the combined total of VLANs and VSANs that can be configured on each fabric interconnect. Of that total, no more than 32 can be VSANs.	3000 This is the combined total of VLANs and VSANs that can be configured on each fabric interconnect. Of that total, no more than 32 can be VSANs.
VLAN/VSAN ID space per Cisco UCS domain	4030-4047 and 4095 are reserved	4030-4047 and 4095 are reserved	4030-4047 and 4095 are reserved and fixed	4030-4047 and 4095 are reserved and fixed
STP logical Interfaces (also referred to as VLAN port count) per fabric interconnect [*]	64000 (with VLAN Port Count Optimization enabled) 16000 (with VLAN Port Count Optimization disabled)	4096	108000 (with VLAN Port Count Optimization enabled) 16000 (with VLAN Port Count Optimization disabled)	108000 (with VLAN Port Count Optimization enabled)
Note [*]The only exception is for failover vNICs. These consume resources on a per Cisco UCS domain basis.				
VIFs (virtual interfaces) per fabric interconnect that map through VM-FEX to a vNIC or VM itself [*]	KVM VM-FEX—2670 [**]	648	1600	1600

Feature	Cisco UCS 6332 Series	Cisco UCS 6324	Cisco UCS 6400 Series	Cisco UCS 6536
Note *The only exception is for failover vNICs. These consume resources on a per Cisco UCS domain basis.				
Note **Beginning with Cisco UCS Manager Release 4.1(1), VMware VM-FEX and Hyper-V VM-FEX are no longer supported. VM-FEX is supported only with Linux.				
IGMP groups per Cisco UCS domain	4000	1000	16000	16000
Uplink port channels per fabric interconnect	12	4	8 *	8
Note *When there is a mix of FC SAN port channels and FCoE SAN port channels, then together they cannot exceed a total of 8 port channels in the system. FC SAN port channels + FCoE SAN port channels: 8 (4 +4, 3+ 5, 2+ 6, 1+7, or 0+8)				
Maximum number of uplinks per fabric interconnect (including up to12 port channels)	31	4	31	31
Member interfaces per port channel	16	4	16	16
Interfaces per FCoE SAN port channel	16	4	16	16
Primary VLANs per Cisco UCS domain *	150	N/A	200	200
Note *Private VLANs count towards the total number of VLANs.				
Secondary VLANs per Cisco UCS domain	1000	N/A	1000	1000
Maximum secondary VLANs per primary VLANs.	200	N/A	200	200
QOS system classes per Cisco UCS domain	6 (including the class default)	6	6 (including the class default)	6 (including the class default)

VIC Environment Configuration Limits

Static Virtual NICs per Host for Cisco UCS 6332 Series, Cisco 6324, 6400, and 6536 Series Fabric Interconnects

OS	vNICs	vHBAs	Max Combination of vNICs and vHBAs
Windows 2016	20	16	12 Enics and 8 Fnics
Windows 2019	20	16	12 Enics and 8 Fnics

OS	vNICs	vHBAs	Max Combination of vNICs and vHBAs
Red Hat Enterprise Linux 7.6 - 7.7, 8.0 - 8.1	32	16	24 Enics and 8 Fnics
ESXi 6.5 U3, 6.7 U2, 6.7 U3	26	16	18 Enics and 8 Fnics or 24 Enics and 2 Fnics
XenServer 7.1 – 7.6, 8.0	32	16	24 Enics and 8 Fnics
OL Unbreakable Enterprise Kernel R4 U7, R5 U1, R5 U2. OL	18	6	18 Enics and 6 Fnics
SUSE Linux Enterprise Server 12 SP4, 12 SP5, 15, 15 SP1	32	16	24 Enics and 8 Fnics
Ubuntu 16.04.5, 16.04.06, 18.04.1, 18.04.2	32	N/A	32 Enics
CentOs 7.6 - 8.0	32	16	24 Enics and 8 Fnics

Dynamic Virtual NICs

Dynamic vNICs are not supported by Cisco 6400 Series Fabric Interconnects. Dynamic vNICs are not supported on VIC 14XX adapters with Windows and ESX OS versions.

Note [**]Beginning with Cisco UCS Manager Release 4.1(1), VMware VM-FEX and Hyper-V VM-FEX are no longer supported. VM-FEX is supported only with Linux.

Cisco UCS 6332 Series, and Cisco 6324 Fabric Interconnect				
OS	Max vNICs for Emulated Mode		Max vNICs for Hypervisor Bypass Mode	
	Half Width Blade (1 VIC)	Full Width Blade (2 VIC)	Half Width Blade (1 VIC)	Full Width Blade (2 VIC)
RHEL 6.2 - 7.7, 8.0, 8.1 (SR-IOV with MacVTap)	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs	N/A	N/A
Note KVM VM-FEX is not supported on the Cisco 6324 Fabric Interconnect				
KVM 6.3 —7.7, 8.0, 8.1 (SR-IOV with PCI Passthrough)	N/A	N/A	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs
Note KVM VM-FEX is not supported on the Cisco 6324 Fabric Interconnect				

Fibre Channel Environment Configuration Limits

Feature	Cisco UCS 6332 Series	Cisco UCS 6324	Cisco UCS 6400 Series	Cisco UCS 6536
VSANs	6332-16UP—15 6332—32 A combined total of 3000 VLANs and VSANs can be configured on each fabric interconnect.	32	32	32
Zones	• Per VSAN—8000 • Across all VSANS—8000 If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 64.	• Per VSAN—4000 • Across all VSANS—4000 If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 4.	• Per VSAN—4000 • Across all VSANS—4000 If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 64.	• Per VSAN—4000 • Across all VSANS—4000 If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 64.
Native FC links	6332-16UP—16 6332—N/A	4	16 Ports 1 to 16 support native FC[*]	16 Ports 1/33/1 to 1/36/4 support native FC

Note [*] For UCS 6454, the number of FC links was increased from 8 to 16 in Cisco UCS Manager Release 4.0(4a)

Feature	Cisco UCS 6332 Series	Cisco UCS 6324	Cisco UCS 6400 Series	Cisco UCS 6536
Virtual Fibre Channel interfaces per fabric interconnect	320	30	320	320
Virtual Fibre Channel interfaces per blade	16	16	16	16
FC-NVMe initiators per blade	4	4	4	4
Flogis per fabric interconnect	320	255	320	320
Maximum number of FC SAN port channels	4	1	4	4
Maximum port channel members per port channel	16	4	16	16
Port channel mode in NPV	Active	N/A	Active	Active
Port channel mode in FC switching	On	On	On	On

VM-FEX Environment Configuration Limits

Note **Beginning with Cisco UCS Manager Release 4.1(1), VMware VM-FEX and Hyper-V VM-FEX are no longer supported. VM-FEX is supported only with Linux.

	Cisco UCS 6332 Series	Cisco UCS 6400 Series	Cisco UCS 6536
Port profiles per Cisco UCS domain	512	N/A	N/A
Dynamic ports per port profile	4096	N/A	N/A

General Network Configuration Limits

Feature	Cisco UCS 6332 Series	Cisco UCS 6324	Cisco UCS 6400 Series	Cisco 6536
Unicast MAC addresses per fabric interconnect	32000 entries	20000 entries	96000 entries	96000 entries
Multicast MAC addresses per fabric interconnect	7000	400	7000	7000
Secured interfaces per Cisco UCS domain	1000 1000 out of the 2000 VIFs can be port-secured.	N/A	1000 1000 out of the 2000 VIFs can be port-secured.	1000 1000 out of the 2000 VIFs can be port-secured.
Secured MAC addresses per Cisco UCS domain	2000 MAC addresses secured using the port-security feature.	N/A	8000 MAC addresses secured using the port-security feature.	8000 MAC addresses secured using the port-security feature.
Maximum MTU	9000	9216	9000	9000
1G ports [1]	6332-16UP—16 6332—First 4 ports	4—First 4 unified ports	6454 - 4 (45-48) 64108 - 8 (89-96)	6536 - 2 unified ports (9 and 10)
SPAN active sessions per fabric interconnect	4	2	4	4
Appliance ports per fabric interconnect	16	2	16	16

[1] For Ethernet Traffic Monitoring sessions in 6332 and 6332-16UP FIs, you cannot use the 1Gbps speed configuration for the configured Ethernet Destination Port.

General Management Configuration Limits

Feature	Cisco UCS 6332 Series	Cisco UCS 6324	Cisco 6400 Series	Cisco UCS 6536
Chassis per Cisco UCS domain	20	2	20	20
Maximum combined number of blade and rack servers per Cisco UCS domain	160	20 (16 blade servers and 4 rack servers)	160	160
Maximum number of Fabric Extenders per Cisco UCS domain [2]	20 (10 per fabric interconnect)	N/A	20 (10 per fabric interconnect)	20 (10 per fabric interconnect)
Local user accounts per Cisco UCS domain	48	48	48	48
Concurrent logins per user account	64 This total includes a maximum of 32 concurrent GUI logins and 32 concurrent CLI logins per user account. This value is the same for both local and remote user accounts.	64 This value is the same for both local and remote user accounts. This total includes a maximum of 32 concurrent GUI logins and 32 concurrent CLI logins per user account.	64 This total includes a maximum of 32 concurrent GUI logins and 32 concurrent CLI logins per user account. This value is the same for both local and remote user accounts.	64 This total includes a maximum of 32 concurrent GUI logins and 32 concurrent CLI logins per user account. This value is the same for both local and remote user accounts.
Active KVM sessions per individual CIMC	4	4	4	4
Concurrent CLI logins per Cisco UCS Manager	32	32	32	32
Concurrent GUI logins per Cisco UCS Manager	256	256	256	256
Number of LDAP groups per Cisco UCS Manager	160	160	160	160
Number of adapter end points per Cisco UCS Manager	320	30	320	320

[2] There is a limit of twenty FEX for each UCS domain. For example, you can either have ten 2232 FEX for each FI or a combination of ten chassis and ten FEX.