

Cisco UCS 6200, 6332, and 6324 Series Configuration Limits for Cisco UCS Manager, Release 3.1

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Configuration Limits

New and Changed Information

This section provides information on new features and changed behavior in Cisco UCS Manager, Release 3.1 (x).

Table 1: New Features and Changed Behavior in Cisco UCS Manager, Release 3.1 (3)

Feature	Description	Where Documented
Number of appliance ports per fabric interconnect	The number of appliance ports per fabric interconnect was increased to 16 for Cisco UCS 6200 6332 series servers.	General Network Configuration Limits, on page 7
Number of active VLANs per domain	The number of active VLANs per Cisco UCS domain was increased to 3000 for the Cisco UCS 6332 series servers.	Ethernet Environment Configuration Limits, on page 2
Number of Primary and Secondary VLANs	For Cisco UCS 6200 series servers the number of primary VLANs was increased to 150 and the maximum secondary VLANs per primary VLANs was increased to 200.	Ethernet Environment Configuration Limits, on page 2

Table 2: New Features and Changed Behavior in Cisco UCS Manager, Release 3.1 (2)

Feature	Description	Where Documented
Number of LDAP groups per Cisco UCS Manager	Changed from 128 to 160	General Management Configuration Limits, on page 8

Configuration Limits

The following tables list the Cisco verified limits for Cisco UCS 6200, 6332, and 6324 series fabric interconnects with Cisco UCS Manager.

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.



Note For additional VMware ESX configuration information, see the *Cisco VM-FEX Best Practices for VMware ESX Environment Deployment Guide* available at the following URL:
http://www.cisco.com/USolutions/collab/340/s517/s224/s944/vm_fex_best_practices_deployment_guide_rsl124_Networking_Solutions_White_Paper.html

Ethernet Environment Configuration Limits

Feature	Cisco UCS 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
Active VLANs per Cisco UCS domain	2000 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.	982
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
STP logical Interfaces (also referred to as VLAN port count) per fabric interconnect Note The only exception is for failover vNICs. These consume resources on a per Cisco UCS domain basis.	64000 (with VLAN Port Count Optimization enabled) 32000 (with VLAN Port Count Optimization disabled)	64000 (with VLAN Port Count Optimization enabled) 16000 (with VLAN Port Count Optimization disabled)	4096
VIFs (virtual interfaces) per fabric interconnect that map through VM-FEX to a vNIC or VM itself Note The only exception is for failover vNICs. These consume resources on a per Cisco UCS domain basis.	VMware VM-FEX—2750 Hyper-V and KVM—2000	VMware VM-FEX—2750	648
IGMP groups per Cisco UCS domain	4000	4000	250

Feature	Cisco UCS 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
Uplink port channels per fabric interconnect	12	12	4
Maximum number of uplinks per fabric interconnect (including up to 12 port channels)	31	31	4
Member interfaces per port channel	16	16	4
Interfaces per FCoE port channel	16	16	4
Primary VLANs per Cisco UCS domain Note Private VLANs count towards the total number of VLANs.	150	150	N/A
Secondary VLANs per Cisco UCS domain	1000	1000	N/A
Maximum secondary VLANs per primary VLANs.	200	200	N/A
QOS system classes per Cisco UCS domain	6 (including the class default)	6 (including the class default)	6

VIC Environment Configuration Limits

Static Virtual NICs per Host for Cisco UCS 6200 Series, Cisco UCS 6332 Series, and Cisco 6324 Fabric Interconnect

OS	vNICs	vHBAs	Max Combination of vNICs and vHBAs
Win 2008 SP2 and R2 SP1	20	16	12 Enics and 8 Fnics
Win 2012 and Win 2012 R2	20	16	12 Enics and 8 Fnics
Win 2016	20	16	12 Enics and 8 Fnics
Red Hat Enterprise Linux 5.9 - 7.3 64bit	32	16	24 Enics and 8 Fnics
ESX 5.0 U2 - ESX 6.5	26	16	18 Enics and 8 Fnics or 24 Enics and 2 Fnics
XenServer 6.1 – 7.2	32	16	24 Enics and 8 Fnics
OL 6.4 to 7.3	18	6	18 Enics and 6 Fnics

OS	vNICs	vHBAs	Max Combination of vNICs and vHBAs
SUSE Linux Enterprise Server 11.2 to 11.4 64bit	32	16	24 Enics and 8 Fnics
Ubuntu 12.04.2 to 16	32	N/A	32 Enics

Static Virtual NICs per Host for Cisco UCS M-Series Module Servers with a Cisco UCS 6200 Series Fabric Interconnect

OS	vNICs
Win 2008 SP2 and R2 SP1	8
Win 2012 and Win 2012 R2	8
Red Hat Enterprise Linux 5.9 - 7 64bit	8
CentOS 6.5	8

Dynamic Virtual NICs



Note Dynamic vNICs are not supported on VIC 14XX adapters with Windows and ESX OS versions.

Cisco UCS 6200 Series, Cisco UCS 6332 Series, and Cisco 6324 Fabric Interconnect				
	Max vNICs for Emulated Mode		Max vNICs for Hypervisor Bypass Mode	
OS	Half Width Blade (1 VIC)	Full Width Blade (2 VIC)	Half Width Blade (1 VIC)	Full Width Blade (2 VIC)
ESXi 5.0 U2—5.5	114 vNICs and 2 vHBAs	114 vNICs and 2 vHBAs	114 vNICs and 2 vHBAs	114 vNICs and 2 vHBAs
ESXi 6.5	Note VM-FEX is not supported for ESXi 6.5.			
Windows 2012 (SR-IOV)	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs
KVM 6.1—6.5 (SR-IOV)	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs
Note	KVM is not supported on the Cisco 6324 Fabric Interconnect			

Cisco UCS 6200 Series, Cisco UCS 6332 Series, and Cisco 6324 Fabric Interconnect				
	Max vNICs for Emulated Mode		Max vNICs for Hypervisor Bypass Mode	
KVM 7.0 —7.4	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs

Fibre Channel Environment Configuration Limits

Feature	Cisco UCS 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
VSANs	32 Note A combined total of 2000 VLANs and VSANs can be configured on each fabric interconnect.	6332-16UP—15 6332—32 Note A combined total of 3000 VLANs and VSANs can be configured on each fabric interconnect.	32
Zones	<ul style="list-style-type: none"> • Per VSAN—8000 • Across all VSANS—8000 Note If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 64.	<ul style="list-style-type: none"> • Per VSAN—8000 • Across all VSANS—8000 Note If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 64.	<ul style="list-style-type: none"> • Per VSAN—4000 • Across all VSANS—4000 Note If you implement Cisco UCS Manager-based zoning, the maximum number of targets per service profile is 4.
Native FC links	6248—Up to 48 6296—Up to 96	6332-16UP—16 6332—N/A	4
Virtual Fibre Channel interfaces per fabric interconnect	320	320	30

Feature	Cisco UCS 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
Virtual Fibre Channel interfaces per blade For more information, see VIC Environment Configuration Limits, on page 3 .	16	16	16
Flogis per fabric interconnect	320	320	255
Maximum number of SAN port channels	4	4	1
Maximum port channel members per port channel	16	16	4
Port channel mode in NPV	Active	Active	N/A
Port channel mode in FC switching	On	On	On

VM-FEX Environment Configuration Limits

	Cisco UCS 6200 Series		Cisco UCS 6332 Series		Cisco UCS 6324	
	Hypervisor Manager	DVS /Logical Switches	Hypervisor Manager	DVS /Logical Switches	Hypervisor Manager	DVS /Logical Switches
ESX/ESXi	4 vCenter per Cisco UCS domain	8 DVS per vCenter	4 vCenter per Cisco UCS domain	8 DVS per vCenter	1 vCenter per Cisco UCS domain	2 DVS per vCenter
Hyper-V	4 SCVMM hosts per Cisco UCS domain	8 logical switches per SCVMM	4 SCVMM hosts per Cisco UCS domain	8 logical switches per SCVMM	1 SCVMM hosts per Cisco UCS domain	2 logical switches per SCVMM
KVM	N/A	1 DVS per Cisco UCS domain	N/A	1 DVS per Cisco UCS domain	N/A	N/A
Port profiles per Cisco UCS domain	512		512		512	
Dynamic ports per port profile	4096		4096		4096	
Dynamic ports per DVS	4096		4096		4096	

SCVMM Support Matrix



Note When you configure scale environment, make sure to configure retention timer value as 30 minutes.

Microsoft Software	Cisco UCS Software	Active Directory Services
SCVMM 2012 SP1, SCVMM 2012R2, or SCVMM 2016 ¹	Cisco UCS Manager, release 3.2(1a) Infrastructure Bundle and Adapter Firmware	AD 2008 R2 and SP1, Windows 2012, Windows 2012R2, Windows 2016
Windows 2012, Windows 2012R2, or Windows 2016 with Hyper-V installed	Cisco ENIC Drivers for Windows Server 2012 Cisco ENIC Drivers for Windows Server 2012 R2 Cisco ENIC Drivers for Windows Server 2016	AD Domain Controller must have the following: <ul style="list-style-type: none"> • DNS • DHCP

¹ Using SCVMM also requires MS SQL Server and Windows ADK. Refer to the Microsoft documentation for additional instructions.

General Network Configuration Limits

Feature	Cisco UCS 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
Unicast MAC addresses per fabric interconnect	20000 entries	32000 entries	20000 entries
Multicast MAC addresses per fabric interconnect	7000	7000	400
Secured interfaces per Cisco UCS domain	1000 1000 out of the 2000 VIFs can be port-secured.	1000 1000 out of the 2000 VIFs can be port-secured.	N/A
Secured MAC addresses per Cisco UCS domain	2000 MAC addresses secured using the port-security feature.	2000 MAC addresses secured using the port-security feature.	N/A
Maximum MTU	9000	9000	9216
1G ports ²	6248—Up to 48 6296—Up to 96	6332-16UP—16 6332—First 4 ports	4—First 4 unified ports
SPAN active sessions per fabric interconnect	4	4	2

Feature	Cisco UCS 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
Appliance ports per fabric interconnect	16	16	2

² 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 6200 Series	Cisco UCS 6332 Series	Cisco UCS 6324
Chassis per Cisco UCS domain	20	20	2
Maximum combined number of blade and rack servers per Cisco UCS domain	160	160	20 (16 blade servers and 4 rack servers)
Maximum number of 2232PP Fabric Extenders per Cisco UCS domain ³	20 (10 per fabric interconnect)	20 (10 per fabric interconnect)	N/A
Local user accounts per Cisco UCS domain	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 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.
Active KVM sessions per individual CIMC	4	4	4
Concurrent CLI logins per Cisco UCS Manager	32	32	32
Concurrent GUI logins per Cisco UCS Manager	256	256	256
Number of LDAP groups per Cisco UCS Manager	160	160	160
Number of adapter end points per Cisco UCS Manager	320	320	30

³ 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.

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