

Cisco UCS 6100 and 6200 Series Configuration Limits for Cisco UCS Manager, Release 2.2

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Configuration Limits

The following tables list the Cisco verified limits for Cisco UCS 6100 and 6200 series fabric interconnects running Cisco UCS Manager release 2.2(x).

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/en/US/solutions/collateral/ns340/ns517/ns224/ns944/vm_fex_best_practices_deployment_guide_ns1124_Networking_Solutions_White_Paper.html

Ethernet Environment Configuration Limits

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
Active VLANs per Cisco UCS domain	982 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.	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.
VLAN/VSAN ID space per Cisco UCS domain	4013 unreserved space	4013 unreserved space

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
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.	14000	64000 (with VLAN Port Count Optimization enabled) Important There is a soft limit of 12k for the VLAN Port Count per ASIC. If you go over the limit, it can overload the dleft table, which has a soft limit of 12k.
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, Hyper-V and KVM - 2000	VMware VM-FEX - 2750 Hyper-V and KVM 2000
IGMP groups per Cisco UCS domain	1000	4000
Uplink port channels per fabric interconnect	12	12
Maximum number of uplinks per fabric interconnect (including up to 12 port channels)	31	31
Member interfaces per port channel	8	16
Interfaces per FCoE port channel	8	16
Primary VLANs per Cisco UCS domain Note Private VLANs count towards the total number of VLANs.	30	50
Secondary VLANs per Cisco UCS domain	30	1000
Maximum secondary VLANs per primary VLANs.	30	30
QOS system classes per Cisco UCS domain	6 (including the class default)	6 (including the class default)

VIC Environment Configuration Limits

Static Virtual NICs per Host

Cisco UCS 6100 Series and Cisco UCS 6200 Series			
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
Red Hat Enterprise Linux 5.9 - 6.5 64bit	32	16	24 Enics and 8 Fnics
ESX 5.0 U2—ESX 5.5	26	16	18 Enics and 8 Fnics
XenServer 6.1 – 6.2	32	16	24 Enics and 8 Fnics
OL 6.4 64bit with UEK 2.6.39-400 Update 5	18	6	18 Enics and 6 Fnics
OL 6.4 64bit with UEK 3.8.13-16	18	6	18 Enics and 6 Fnics
SUSE Linux Enterprise Server 11.2 64bit	32	16	24 Enics and 8 Fnics
SUSE Linux Enterprise Server 11.3 64bit	32	16	24 Enics and 8 Fnics
Ubuntu 12.04.2	32	N/A	32 Enics

Dynamic Virtual NIC

Cisco UCS 6100 Series and Cisco UCS 6200 Series				
	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
Window 2012 (SR-IOV)	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs	114 vNICs and 2 vHBAs	223 vNICs with 4 vHBAs

Cisco UCS 6100 Series and Cisco UCS 6200 Series				
	Max vNICs for Emulated Mode		Max vNICs for Hypervisor Bypass Mode	
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

Fibre Channel Environment Configuration Limits

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
VSANs	32 Note This is the combined total of 982 VLANs and VSANs that can be configured on each fabric interconnect. Of that total, no more than 32 can be VSANs.	32 Note A combined total of 2000 VLANs and VSANs can be configured on each fabric interconnect.
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.
Native FC links	Native 4G links: <ul style="list-style-type: none"> • 6120—8 • 6140—16 Native 8G links: <ul style="list-style-type: none"> • 6120—6 • 6140—12 	6248—Up to 48 6296—Up to 96
Virtual Fibre Channel interfaces per fabric interconnect	160	240

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
Virtual Fibre Channel interfaces per blade For more information, see VIC Environment Configuration Limits , on page 3.	16	16
Flogis per fabric interconnect	256	256
Maximum number of SAN port channels	4	4
Maximum port channel members per port channel	8	16
Port channel mode in NPV	Active	Active
Port channel mode in FC switching	On	On

VM-FEX Environment Configuration Limits

	Cisco UCS 6100 Series		Cisco UCS 6200 Series	
	Hypervisor Manager	DVS /Logical Switches	Hypervisor Manager	DVS /Logical Switches
ESX/ESXi	1 vCenter per Cisco UCS domain	1 DVS per vCenter	4 vCenter per Cisco UCS domain	8 DVS per vCenter
Hyper-V	N/A	N/A	4 SCVMM hosts per Cisco UCS domain	8 logical switches per SCVMM
KVM	N/A	1 DVS per Cisco UCS domain	N/A	1 DVS per Cisco UCS domain
Port profiles per Cisco UCS domain	512		512	
Dynamic ports per port profile	4096		4096	
Dynamic ports per DVS	4096		4096	

SCVMM Support Matrix



Note SCVMM support is added in Cisco UCS 6200 Series. 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	Cisco UCS Manager, release 2.2(1) Infrastructure Bundle and Adapter Firmware Cisco ENIC Drivers for Windows Server 2012	AD 2008 R2 and SP1 or 2012 AD Domain Controller must have the following: <ul style="list-style-type: none"> • DNS • DHCP • MSSQL 2008 and above Database for SCVMM Data store • SQL Command line utilities • Windows ADK 8.0
Windows Hyper-V 2012		

General Network Configuration Limits

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
Unicast MAC addresses per fabric interconnect	13800 entries	20000 entries
Multicast MAC addresses per fabric interconnect	6000	7000
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.
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.
Maximum MTU	9000	9000
1G ports	6120—First 8 fixed ports 6140—First 16 fixed ports	6248—Up to 48 6296—Up to 96

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
SPAN active sessions per fabric interconnect	2	4
Appliance ports per fabric interconnect	2	Cisco UCS Manager Release 2.2.3 and previous: 2 Cisco UCS Manager Release 2.2.4 and onwards: 4

General Management Configuration Limits

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
Chassis per Cisco UCS domain	20	20
Maximum combined number of blade and rack servers per Cisco UCS domain	160	160
Maximum number of 2232PP Fabric Extenders per Cisco UCS domain	20 (10 per fabric interconnect)	20 (10 per fabric interconnect)
Local user accounts per Cisco UCS domain	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.
Active KVM sessions per individual CIMC	4	4
Concurrent CLI logins per Cisco UCS Manager	32	32
Concurrent GUI logins per Cisco UCS Manager	256	256
Number of LDAP groups per Cisco UCS Manager	28	28

Feature	Cisco UCS 6100 Series	Cisco UCS 6200 Series
Number of adapter end points per Cisco UCS Manager	160	Cisco UCS Manager Release 2.2.3 and previous: 240 Cisco UCS Manager Release 2.2.4 and onwards: 320

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