

Cisco UCS 6100 and 6200 Series Configuration Limits for Cisco UCS Manager, Release 2.1

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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 2.1(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) |
| 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 | 30 |
| Secondary VLANs per Cisco UCS domain | 30 | 30 |
| 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 | 20 | 16 | 12 Enics and 8 Fnics |
| RHEL 5.7—6.4 | 32 | 16 | 24 Enics and 8 Fnics |
| ESX 5.0 U2—ESX 5.5 | 26 | 16 | 18 Enics and 8 Fnics |
| Xenserver 6.1 | 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 | 1 vCenter per Cisco UCS domain | 4 DVS per vCenter |
| Hyper-V | N/A | N/A | 1 MMC Instance | 5 DVS per Cisco UCS domain |
| 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 | 2 |

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 |

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