



## Migrating to Cisco UCS 6500 Series Fabric Interconnects

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## Cisco UCS 6500 Series Fabric Interconnect Hardware Compatibility Matrix

This section provides information on compatible hardware component with Cisco UCS 6500 Series Fabric Interconnect. Before upgrading to Cisco UCS-FI-6536, ensure that you acquire all the compatible components.

**Table 1: Supported Servers**

Server Type	Server
Cisco UCS C-Series Servers	C220 M6, C240 M6, C225 M6, C245 M6, C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, C220 M4, C240 M4, C460 M4
Cisco UCS S-Series Servers	S3260 M5
Cisco UCS B-Series Servers	B200 M6, B480 M5, B200 M5, B200 M4, B420 M4, B260 M4, B460 M4

**Table 2: Supported Rack Servers and FEX with Cisco 1300 Series VIC Adapters**

<b>FI</b>	<b>FEX</b>	<b>1385 - 40G UCSC-PCIE-C400-03</b>	<b>1387 - 40G UCSC-MLOM-C400-03</b>
UCS-FI-6536	Direct Attach (40/100G)	C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, C220 M4, C240 M4, C460 M4	C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, C220 M4, C240 M4, C460 M4
	Direct Attach (4x25G or 25G QSA28)	Not Supported	Not Supported
	93180YC-FX3 (25G server ports)	Not Supported	Not Supported
	2348 UPQ (10G server ports)	C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, C220 M4, C240 M4, C460 M4	C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, C220 M4, C240 M4, C460 M4 (QSA at the adapter)

**Table 3: Supported Rack Servers and FEX with Cisco 1400 Series VIC Adapters**

FI	FEX	1455- 10G/25G <del>UCSP0EC2004</del>	1457 - 10G/25G <del>UCSMDMV2004</del>	1467 - 10G/25G <del>UCSC-MAV25-04</del>	1495 - 40G/100G <del>UCSP0EC1004</del>	1497 - 40G/100G <del>UCSMDMV1004</del>	1477 - 40G/100G <del>UCSC-MAV100-04</del>
UCS-FI-6536	Direct Attach (40/100G)	Not Supported	Not Supported	Not Supported	C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, S3260 M5	C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5	C225 M6, C245 M6, C220 M6, C240 M6
	Direct Attach (4x25G or 25G QSA28)	C225 M6, C245 M6, C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, S3260 M5	C220 M5, C240 M5	C225 M6, C245 M6, C220 M6, C240 M6	Not Supported	Not Supported	Not Supported
	93180YC-FX3 (25G server ports)	C225 M6, C245 M6, C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, S3260 M5	C220 M5, C240 M5	C225 M6, C245 M6, C220 M6, C240 M6	Not Supported	Not Supported	Not Supported
	2348 UPQ (10G server ports)	C225 M6, C245 M6, C220 M5, C240 M5, C480 M5, C480 ML M5, C125 M5, S3260 M5	C220 M5, C240 M5	C225 M6, C245 M6, C220 M6, C240 M6	Not Supported	Not Supported	Not Supported

Table 4: Supported Rack Servers and FEX with Cisco 15000 Series VIC Adapters

FI	FEX	15428 UCSC-M-V5Q50G	15238 (UCSC-M-V5D200G)
UCS-FI-6536	Direct Attach (40/100G)	Not Supported	C225 M6, C245 M6, C220 M6, C240 M6
	Direct Attach (4x25G or 25G QSA28)	C225 M6, C245 M6, C220 M6, C240 M6	Not Supported
	93180YC-FX3 (25G server ports)	C225 M6, C245 M6, C220 M6, C240 M6	Not Supported
	2348 UPQ (10G server ports)	C225 M6, C245 M6, C220 M6, C240 M6	Not Supported

Table 5: Supported Blade Servers and IOM with Cisco 1300 Series VIC Adapters

FI	IOM	1340 - 10G/40G UCSBMOMVGB	1380 - 10/40 UCSBMOMVGB	1340 + 1380	1340 + Port Expander - 10G/40G UCSBMOMVGB + UCSBMOMVGB	1340 + 1380 + Port Expander	1340 + 1380 + 1380
UCS-FI-6536	2304V1/V2 (40G)	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B260 M4, B460M4, B420M4, B480M5	B260 M4, B460M4, B420M4, B480M5
	2408 (40G)	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B200 M5, B480 M5, B200 M4, B260 M4, B460 M4, B420 M4	B260 M4, B460M4, B420M4, B480M5	B260 M4, B460M4, B420M4, B480M5

Table 6: Supported Blade Servers and IOM with Cisco 1400 Series VIC Adapters

FI	IOM	1440 - 10/40 UCSB-M10V10G	1440 + Port Expander UCSB-M10V10G + UCSB-M10V10P	1480 - 10/40 UCSB-M10V10P	1440 + 1480	1440 + 1480 + Port Expander	1440 + 1480 + 1480
UCS-FI-6536	2304V1/V2 (40G)	B200 M6, B200 M5, B480 M5	B200 M6, B200 M5, B480 M5	B200 M6, B200 M5, B480 M5	B200 M6, B200 M5, B480 M5	B480 M5	B480 M5
	2408 (40G)	B200 M6, B200 M5, B480 M5	B200 M6, B200 M5, B480 M5	B200 M6, B200 M5, B480 M5	B200 M6, B200 M5, B480 M5	B480 M5	B480 M5

Table 7: Supported Blade Servers and IOM with Cisco 15000 Series VIC Adapters

FI	IOM	15411 UCSB-ML-V5Q10G	15411 + Port Expander UCSB-ML-V5Q10G + UCSB-ML0M-PT-01
UCS-FI-6536	2304V1/V2 (40G)	B200 M6	B200 M6
	2408 (40G)	B200 M6	B200 M6

# Migrating Cisco UCS 6300 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect

## Fabric Interconnect Migration Considerations

Beginning with Cisco UCS Manager, Release 4.2(3a), Cisco UCS Manager provides support for Cisco UCS 6536 Fabric Interconnect. You can migrate Cisco UCS 6300 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect with B-Series servers, C-Series, or S-Series servers.

To migrate from Cisco UCS 6300 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect:

- Cisco UCS 6300 Series Fabric Interconnects must be on Cisco UCS Manager 4.2(3a) or a later release.
- Cisco UCS 6536 Fabric Interconnect must be loaded with the same Infrastructure Firmware version that is on the Cisco UCS 6300 Series Fabric Interconnect that it will replace.

### Prerequisites

Before performing the migration from Cisco UCS 6300 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect, ensure that the following prerequisites are met:

- For a successful cluster failover, the Connection Status in CIMC Connection Details field must be always A, B.

- Licenses from Cisco UCS 6300 Series Fabric Interconnects are not transferable to Cisco UCS 6536 Series Fabric Interconnects.
- Cisco UCS 6536 Fabric Interconnect use the IDLE fill pattern for FC uplink ports and FC storage ports when using 8 Gbps speed.

When migrating to Cisco UCS 6536 Fabric Interconnect and configuring FC Uplink Ports or FC Storage Ports at 8Gbps speed, ensure that the fill pattern is set as IDLE on the corresponding FC switch ports and the direct-attached FC storage array ports. If the fill pattern is not set as IDLE, FC uplink ports and FC storage ports operating at 8 Gbps might go to an errDisabled state, lose SYNC intermittently, or receive errors or bad packets.

Cisco UCS 6536 Fabric Interconnects supports 8 Gbps only with fill-pattern set to IDLE for direct-attached FC connectivity (FC uplink ports or FC storage ports). This limitation is not applicable for Cisco UCS 6536 Fabric Interconnects with FC ports at 16 Gbps and 32 Gbps. When migrating to Cisco UCS 6536 Fabric Interconnect for direct-attached storage arrays that don't support IDLE fill-pattern at 8 Gbps do one of the following:

- Use a SAN switch between the Cisco UCS 6536 Fabric Interconnect and the storage array with 8 GB FC connectivity.
- Upgrade the storage array to 16 GB or 32 GB FC connectivity.
- Ensure to unconfigure the Ethernet ports, Fibre Channel ports, or unified ports on the Cisco UCS 6300 Series Fabric Interconnects.
- Ensure the latest firmware bundle is downloaded and upgraded through GUI or CLI. Incase of attempting to upgrade the firmware bundle using other methods (loader prompt/erase configuration) can result in missing package version.
- Perform a full configuration and software backup before performing the hardware upgrade.
- Upgrading the fabric interconnect must be performed before upgrading to a new Fabric Extender (FEX), I/O Module (IOM), or virtual interface card.
- Migrating to different IOM models can result in peer communication issue between IOMs of the Primary and Secondary Fabric Interconnects.
- Do not attempt to implement new software features from the new Cisco UCS software version until all required hardware is installed.
- Changes to the topology, such as the number of servers or uplink connections, should be performed after the fabric interconnect migration is complete.
- Make a detailed record of the cabling between FEXes and fabric interconnects. You must preserve the physical port mapping to maintain the server pinning already configured and minimize down time.
- For a cluster configuration, both fabric interconnects must have symmetrical connection topologies between fabric interconnect and FEXes.
- Connecting Cisco UCS VIC adapter ports to a Cisco UCS 6536 fabric interconnect through a mix of 10G and 25G cables can result in UCS rack-mount server discovery fail and ports to suspended state.
- Standalone installations should expect down time. Migrating or upgrading a fabric interconnect is inherently traffic disruptive.
- A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00:00 to 20:FF:00:FF:FF:FF:FF:FF or from 50:00:00:00:00:00:00:00 to 5F:FF:00:FF:FF:FF:FF:FF. All other

WWN ranges are reserved. When fibre channel traffic is sent through the UCS infrastructure the source WWPN is converted to a MAC address. You cannot use WWPN pool which can translate to source multicast MAC addresses. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNs in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool:  
20:00:00:25:B5:XX:XX:XX

- For the supported list of Servers, FEX, IOM, or VICs on Cisco UCS 6536 Fabric Interconnect, see [Cisco UCS 6500 Series Fabric Interconnect Hardware Compatibility Matrix, on page 1](#)

## Recommendations

Following are the best practices for a successful migration:

- During the migration of Fabric Interconnects, ensure the Cluster ID is not changed.
- During the migration, image synchronization between fabric interconnects is not allowed. This is done to prevent incompatible images from getting synchronized. We recommend that you download B-Series, C-Series, and S-Series server software bundles again after migration is complete.
- During the migration, ensure that VLAN is not created in the range of 3915 to 4042 which are the reserved VLAN range for Cisco UCS 6536 Fabric Interconnects.
- After successful migration of Fabric Interconnects, reconfigure the Ethernet Ports, Fibre Channel ports, or unified ports as required based on their location on the Cisco UCS 6536 Fabric Interconnects, and reacknowledge the newly configured ports.

On Cisco UCS 6536 Fabric Interconnect, the Fibre Channel Port can be configured on the Unified Ports (33-36 ports).

## Validating Feature Configurations for Cisco UCS 6536 before Upgrade

Cisco UCS 6536 Fabric Interconnect does not support some software features that were allowed with Cisco UCS 6300 Fabric Interconnect. Some of these features will become available at a later software release.

**Table 8: Features that needs special attention prior to upgrading**

Feature	Remediation
License Management	Licensing for Cisco UCS 6536 Fabric Interconnect is not a port-based license like in previous generation Fabric Interconnects.  All ports are enabled using a term-based subscription license in Cisco UCS 6536 Fabric Interconnect. This new smart license is applicable only for Cisco UCS 6536 Fabric Interconnect and is available from 4.2(3a) release.
Chassis and fabric extender I/O port channel	Select a port channel to the I/O module (IOM).
Multicast optimization	Verify that multicast optimization is not enabled under the LAN quality-of-service (QoS) system classes
Fabric forwarding mode for Ethernet	Verify that the Ethernet forwarding mode is set to <b>End Host Mode Only</b> .

Feature	Remediation
Fabric forwarding mode for Fibre Channel	Verify that Fibre Channel forwarding mode is set to <b>End Host Mode Only</b> .
Cisco NetFlow	Unconfigure NetFlow.
MAC Security	Select <b>Allow</b> for MAC security.
VM-FEX	Remove port profiles and Cisco UCS Manager ESXi or SCVMM related configurations.
Dynamic vNIC connection policies	Set the dynamic vNIC connection policy in the vNIC profile to <b>Not set</b> .
Cisco Switched Port Analyzer (SPAN)	Use receive (RX) direction only. The installer will change SPAN to the RX direction and send an alert indicating that this setting is being changed.

Failure to comply with these remediation steps will result in a migration warning alert during the migration process and prevent the fabric interconnects from synchronizing.

## Migrating from UCS 6300 Series Fabric Interconnects to UCS 6536 Fabric Interconnects

Cisco UCS 6300 Series Fabric Interconnects include Cisco UCS 6332 and Cisco UCS 6332-16UP. You can migrate from Cisco UCS 6300 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect. However, you cannot migrate back to a UCS 6300 Series Fabric Interconnect after you have migrated to a Cisco UCS 6536 Fabric Interconnect.

The Cisco UCS 6536 Fabric Interconnect does not support a few software features that were supported on UCS 6300 Series Fabric Interconnect in Cisco UCS Manager, Release 3.2 and earlier releases.

The Cisco UCS 6536 Fabric Interconnect supports only port-channel mode for chassis-discovery. On changing the chassis or FEX discovery policy to port-channel, the chassis needs to be re-acknowledged before proceeding with the migration. If the chassis is not re-acknowledged, the migration will fail.

To acknowledge the chassis in Cisco UCS Manager, do the following:

1. In the Navigation pane of Cisco UCS Manager, click **Equipment**.
2. Click the **Equipment** node.
3. In the Work pane, click the **Policies** tab.
4. Click the **Global Policies** subtab.
5. In the **Chassis/FEX Discovery Policy** area, set the **Link Grouping Preference** field to **Port Channel**.
6. Expand **Equipment > Chassis**, and choose the chassis that you want to acknowledge.
7. In the Work pane, click the **General** tab.
8. In the **Actions** area, click **Acknowledge Chassis**.



The Cisco UCS 6536 Fabric Interconnect is intended as a replacement for the Cisco UCS 6300 Series Fabric Interconnect, but not as a replacement for the higher speed (or 40Gb). Therefore, Cisco has not tested or published a plan to migrate from Cisco UCS 6300 Series Fabric Interconnect to Cisco UCS 6536 Fabric Interconnect.

For more information about how to perform configuration procedures in Cisco UCS Manager for a particular step, see the appropriate [Cisco UCS Manager configuration guide](#) for Cisco UCS Manager.

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- Step 1** Download Cisco UCS Manager, Release 4.0 or later versions to the UCS 6300 Series Fabric Interconnects and upgrade to 4.2(3a) version.
- Step 2** Evacuate traffic from the subordinate fabric interconnect to ensure there is no data traffic impact during migration.
- For more information, see the *Fabric Interconnect Traffic Evacuation* section in the *Guidelines and Prerequisites* chapter of the [Cisco UCS Manager Firmware Management Guide](#).
- Step 3** When migrating from UCS 6300 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect with B-Series servers, C-Series, or S-Series servers, ensure that the port channel is enabled before migration.
- Step 4** Unconfigure all the unified ports on the subordinate fabric interconnect.
- Step 5** Power down the subordinate fabric interconnect by unplugging it from the power source.
- If you are monitoring the migration using a KVM session, you may need to reconnect the KVM session when you power down the fabric interconnect.
- Step 6** Mount the replacement Cisco UCS 6536 Fabric Interconnect into either the same rack or an adjacent rack.
- Step 7** Disconnect the cables from the chassis FEXes or fabric extenders to the subordinate fabric interconnect ports in slot 1 on the UCS 6300 Series Fabric Interconnect.
- Step 8** Connect these cables into the corresponding ports on slot 1 of one of the new Cisco UCS 6536 Fabric Interconnects, using the connection records to preserve the port mapping and the configured server pinning. To change the port mapping, especially while reconfiguring FC ports, you must reacknowledge the newly configured ports.
- Step 9** Connect the L1 or L2 cables that were disconnected onto the new Cisco UCS 6536 Fabric Interconnect.
- L1 connects to L1, L2 connects to L2.
- Step 10** Connect the server and uplink cables.
- Note** For more information, refer the [Cisco UCS 6536 Series Fabric Interconnect Hardware Installation Guide](#).
- Step 11** Connect the power to the new Cisco UCS 6536 Fabric Interconnect, it will automatically boot and run POST tests. If it reboots itself, this is a normal behavior.
- Important** Directly connect the console port to a terminal and observe the boot sequence. You should at some point see the Basic System Configuration Dialog, where you will configure the switch as a subordinate interconnect. If you do not see this dialog, you either have different builds of software on your old primary and new subordinate, or the new subordinate has previously been part of a cluster and will need to have all configuration information wiped before it can be added to a cluster as a subordinate. In either case, immediately disconnect the L1 and L2 connections and quickly restore as a standalone fabric interconnect, then correct the issue before proceeding further.
- Step 12** Configure the server and uplink ports on the new Cisco UCS 6536 Fabric Interconnect.
- Step 13** The new subordinate Cisco UCS 6536 Fabric Interconnect will automatically synchronize the configuration and database/state information from the primary UCS 6300 Series Fabric Interconnect.

Synchronization between primary and subordinate fabric interconnects can take several minutes. You may see an error message that will persist until the server ports are enabled.

The port configuration is copied from the subordinate switch to the new hardware.

**Note** Skip to Step 15 in case of removing and replacing with a different IOM or FEX during migration. For more information on the compatibility of IOM or FEX, see [Ports on the Cisco UCS Fabric Interconnects](#)

- Step 14** Reconfigure the server ports that had been unconfigured in Step 4.
- If you have changed port mappings, you may need to reacknowledge the IOM, FEX, or direct-connect rack server connected to the subordinate fabric interconnect.
  - Verify and if necessary reconfigure Ethernet ports as server ports.
  - Skip to Step 16 to verify the data path.
- Step 15** Remove and replace the new IOM or FEX and reconfigure the server ports.
- Reconfigure to the same port to maintain the port mappings and acknowledge the IOM or FEX connected to the subordinate fabric interconnect.
  - Verify and if necessary reconfigure Ethernet ports as server ports.
- Note** For more information, see [Migrate to Cisco UCS IOM 2408](#)
- Step 16** Verify that the data path is ready.
- For more information, see the *Verifying that Dynamic vNICs Are Up and Running* section in the *Guidelines and Prerequisites* chapter of the [Cisco UCS Manager Firmware Management Guide](#).
- Ensure that all faults are resolved before proceeding.
- Verify and if necessary reconfigure the SAN pin group for FC ports in the associated service profile.
  - Verify and if necessary reconfigure the LAN pin group for Ethernet ports in the associated service profile.
  - Verify and if necessary reconfigure the port channel for uplink Ethernet ports.
- Step 17** Restart the stopped traffic flows by disabling fabric evacuation.
- Step 18** Promote the subordinate fabric interconnect to primary, and repeat the process on the second new Cisco UCS 6536 Fabric Interconnect.
- Cable the second new fabric interconnect identically to the first, and allow the reconfiguration done to be applied to the second new fabric interconnect as well.

# Migrating Cisco UCS 6200 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect

## Fabric Interconnect Migration Considerations

Beginning with Cisco UCS Manager, Release 4.2(3a), Cisco UCS Manager provides support for Cisco UCS 6536 Fabric Interconnect. You can migrate Cisco UCS 6200 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect with B-Series servers, C-Series, or S-Series servers.

To migrate from Cisco UCS 6200 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect:

- Cisco UCS 6200 Series Fabric Interconnects must be on Cisco UCS Manager 4.2(3a) or a later release.
- Cisco UCS 6536 Fabric Interconnect must be loaded with the same Infrastructure Firmware version that is on the Cisco UCS 6200 Series Fabric Interconnect that it will replace.

### Prerequisites

Before performing the migration from Cisco UCS 6200 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect, ensure that the following prerequisites are met:

- For a successful cluster failover, the Connection Status in CIMC Connection Details field must be always A, B.
- Licenses from Cisco UCS 6200 Series Fabric Interconnects are not transferable to Cisco UCS 6536 Series Fabric Interconnects.
- Cisco UCS 6536 Fabric Interconnect use the IDLE fill pattern for FC uplink ports and FC storage ports when using 8 Gbps speed.

When migrating to Cisco UCS 6536 Fabric Interconnect and configuring FC Uplink Ports or FC Storage Ports at 8Gbps speed, ensure that the fill pattern is set as IDLE on the corresponding FC switch ports and the direct-attached FC storage array ports. If the fill pattern is not set as IDLE, FC uplink ports and FC storage ports operating at 8 Gbps might go to an errDisabled state, lose SYNC intermittently, or receive errors or bad packets.

Cisco UCS 6536 Fabric Interconnects supports 8 Gbps only with fill-pattern set to IDLE for direct-attached FC connectivity (FC uplink ports or FC storage ports). This limitation is not applicable for Cisco UCS 6536 Fabric Interconnects with FC ports at 16 Gbps and 32 Gbps. When migrating to Cisco UCS 6536 Fabric Interconnect for direct-attached storage arrays that don't support IDLE fill-pattern at 8 Gbps do one of the following:

- Use a SAN switch between the Cisco UCS 6536 Fabric Interconnect and the storage array with 8 GB FC connectivity.
- Upgrade the storage array to 16 GB or 32 GB FC connectivity.
- Ensure to unconfigure the Ethernet ports, Fibre Channel ports, or unified ports on the Cisco UCS 6200 Series Fabric Interconnects.
- Ensure the latest firmware bundle is downloaded and upgraded through GUI or CLI. In case of attempting to upgrade the firmware bundle using other methods (loader prompt/erase configuration) can result in missing package version.
- Perform a full configuration and software backup before performing the hardware upgrade.
- Upgrading the fabric interconnect must be performed before upgrading to a new Fabric Extender (FEX), I/O Module (IOM), or virtual interface card.
- Migrating to different IOM models can result in peer communication issue between IOMs of the Primary and Secondary Fabric Interconnects.
- Do not attempt to implement new software features from the new Cisco UCS software version until all required hardware is installed.
- Changes to the topology, such as the number of servers or uplink connections, should be performed after the fabric interconnect migration is complete.

- Make a detailed record of the cabling between FEXes and fabric interconnects. You must preserve the physical port mapping to maintain the server pinning already configured and minimize down time.
- For a cluster configuration, both fabric interconnects must have symmetrical connection topologies between fabric interconnect and FEXes.
- Connecting Cisco UCS VIC adapter ports to a Cisco UCS 6536 fabric interconnect through a mix of 10G and 25G cables can result in UCS rack-mount server discovery fail and ports to suspended state.
- Standalone installations should expect down time. Migrating or upgrading a fabric interconnect is inherently traffic disruptive.
- A WWN pool can include only WWNNs or WWPNS in the ranges from 20:00:00:00:00:00:00 to 20:FF:00:FF:FF:FF:FF or from 50:00:00:00:00:00:00 to 5F:FF:00:FF:FF:FF:FF. All other WWN ranges are reserved. When fibre channel traffic is sent through the UCS infrastructure the source WWPNS is converted to a MAC address. You cannot use WWPNS pool which can translate to source multicast MAC addresses. To ensure the uniqueness of the Cisco UCS WWNNs and WWPNS in the SAN fabric, Cisco recommends using the following WWN prefix for all blocks in a pool: 20:00:00:25:B5:XX:XX:XX.
- For the supported list of Servers, FEX, IOM, or VICs on Cisco UCS 6536 Fabric Interconnect, see [Cisco UCS 6500 Series Fabric Interconnect Hardware Compatibility Matrix, on page 1](#).

#### • Recommendations

Following are the best practices for a successful migration:

- During the migration of Fabric Interconnects, ensure the Cluster ID is not changed.
- During the migration, image synchronization between fabric interconnects is not allowed. This is done to prevent incompatible images from getting synchronized. We recommend that you download B-Series, C-Series, and S-Series server software bundles again after migration is complete.
- During the migration, ensure that VLAN is not created in the range of 3915 to 4042 which are the reserved VLAN range for Cisco UCS 6536 Fabric Interconnects.
- After successful migration of Fabric Interconnects, reconfigure the Ethernet Ports, Fibre Channel ports, or unified ports as required based on their location on the Cisco UCS 6536 Fabric Interconnects, and reacknowledge the newly configured ports.

On Cisco UCS 6536 Fabric Interconnect, the Fibre Channel Port can be configured on the Unified Ports (33-36 ports).

## Validating Feature Configurations for Cisco UCS 6536 before Upgrade

Cisco UCS 6536 Fabric Interconnect does not support some software features that were allowed with Cisco UCS 6200 Fabric Interconnect. Some of these features will become available at a later software release.

**Table 9: Features that needs special attention prior to upgrading**

Feature	Remediation
License Management	Licensing for Cisco UCS 6536 Fabric Interconnect is not a port-based license like in previous generation Fabric Interconnects.  All ports are enabled using a term-based subscription license in Cisco UCS 6536 Fabric Interconnect. This new smart license is applicable only for Cisco UCS 6536 Fabric Interconnect and is available from 4.2(3a) release.
Chassis and fabric extender I/O port channel	Select a port channel to the I/O module (IOM).
Multicast optimization	Verify that multicast optimization is not enabled under the LAN quality-of-service (QoS) system classes
Fabric forwarding mode for Ethernet	Verify that the Ethernet forwarding mode is set to <b>End Host Mode Only</b> .
Fabric forwarding mode for Fibre Channel	Verify that Fibre Channel forwarding mode is set to <b>End Host Mode Only</b> .
Cisco NetFlow	Unconfigure NetFlow.
MAC Security	Select <b>Allow</b> for MAC security.
VM-FEX	Remove port profiles and Cisco UCS Manager ESXi or SCVMM related configurations.
Dynamic vNIC connection policies	Set the dynamic vNIC connection policy in the vNIC profile to <b>Not set</b> .
Cisco Switched Port Analyzer (SPAN)	Use receive (RX) direction only. The installer will change SPAN to the RX direction and send an alert indicating that this setting is being changed.

Failure to comply with these remediation steps will result in a migration warning alert during the migration process and prevent the fabric interconnects from synchronizing.

## Migrating from UCS 6200 Series Fabric Interconnects to UCS 6536 Fabric Interconnects

Cisco UCS 6200 Series Fabric Interconnects include Cisco UCS 6248UP 48-Port Fabric Interconnect and Cisco UCS 6296UP 96-Port Fabric Interconnect. You can migrate from Cisco UCS 6200 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect. However, you cannot migrate back to a UCS 6200 Series Fabric Interconnect after you have migrated to a Cisco UCS 6536 Fabric Interconnect.

The Cisco UCS 6536 Fabric Interconnect does not support a few software features that were supported on UCS 6200 Series Fabric Interconnect.

The Cisco UCS 6536 Fabric Interconnect supports only port-channel mode for chassis-discovery. On changing the chassis or FEX discovery policy to port-channel, the chassis needs to be re-acknowledged before proceeding with the migration. If the chassis is not re-acknowledged, the migration will fail.

To acknowledge the chassis in Cisco UCS Manager, do the following:

1. In the Navigation pane of Cisco UCS Manager, click **Equipment**.
2. Click the **Equipment** node.
3. In the Work pane, click the **Policies** tab.
4. Click the **Global Policies** subtab.
5. In the **Chassis/FEX Discovery Policy** area, set the **Link Grouping Preference** field to **Port Channel**.
6. Expand **Equipment** > **Chassis**, and choose the chassis that you want to acknowledge.
7. In the Work pane, click the **General** tab.
8. In the **Actions** area, click **Acknowledge Chassis**.

The Cisco UCS 6536 Fabric Interconnect is intended as a replacement for the Cisco UCS 6200 Series Fabric Interconnect, but not as a replacement for the higher speed (or 40Gb). Therefore, Cisco has not tested or published a plan to migrate from Cisco UCS 6200 Series Fabric Interconnect to Cisco UCS 6536 Fabric Interconnect.

For more information about how to perform configuration procedures in Cisco UCS Manager for a particular step, see the appropriate [Cisco UCS Manager configuration guide](#) for Cisco UCS Manager.

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- Step 1** Download Cisco UCS Manager, Release 4.0 or later versions to the UCS 6200 Series Fabric Interconnects and upgrade to 4.2(3a) version.
- Step 2** Evacuate traffic from the subordinate fabric interconnect to ensure there is no data traffic impact during migration.
- For more information, see the *Fabric Interconnect Traffic Evacuation* section in the *Guidelines and Prerequisites* chapter of the [Cisco UCS Manager Firmware Management Guide](#).
- Step 3** When migrating from UCS 6200 Series Fabric Interconnects to Cisco UCS 6536 Fabric Interconnect with B-Series servers, C-Series, or S-Series servers, ensure that the port channel is enabled before migration.
- Step 4** Unconfigure all the unified ports on the subordinate fabric interconnect.
- Step 5** Power down the subordinate fabric interconnect by unplugging it from the power source.
- If you are monitoring the migration using a KVM session, you may need to reconnect the KVM session when you power down the fabric interconnect.
- Step 6** Mount the replacement Cisco UCS 6536 Fabric Interconnect into either the same rack or an adjacent rack.
- Step 7** Disconnect the cables from the chassis FEXes or fabric extenders to the subordinate fabric interconnect ports in slot 1 on the UCS 6200 Series Fabric Interconnect.
- Step 8** Connect these cables into the corresponding ports on slot 1 of one of the new Cisco UCS 6536 Fabric Interconnects, using the connection records to preserve the port mapping and the configured server pinning. To change the port mapping, especially while reconfiguring FC ports, you must reacknowledge the newly configured ports.
- Step 9** Connect the L1 or L2 cables that were disconnected onto the new Cisco UCS 6536 Fabric Interconnect.
- L1 connects to L1, L2 connects to L2.

**Step 10** Connect the server and uplink cables.

**Note** For more information, refer the [Cisco UCS 6536 Series Fabric Interconnect Hardware Installation Guide](#).

**Step 11** Connect the power to the new Cisco UCS 6536 Fabric Interconnect, it will automatically boot and run POST tests. If it reboots itself, this is a normal behavior.

**Important** Directly connect the console port to a terminal and observe the boot sequence. You should at some point see the Basic System Configuration Dialog, where you will configure the switch as a subordinate interconnect. If you do not see this dialog, you either have different builds of software on your old primary and new subordinate, or the new subordinate has previously been part of a cluster and will need to have all configuration information wiped before it can be added to a cluster as a subordinate. In either case, immediately disconnect the L1 and L2 connections and quickly restore as a standalone fabric interconnect, then correct the issue before proceeding further.

**Step 12** Configure the server and uplink ports on the new Cisco UCS 6536 Fabric Interconnect.

**Step 13** The new subordinate Cisco UCS 6536 Fabric Interconnect will automatically synchronize the configuration and database/state information from the primary UCS 6200 Series Fabric Interconnect.

Synchronization between primary and subordinate fabric interconnects can take several minutes. You may see an error message that will persist until the server ports are enabled.

The port configuration is copied from the subordinate switch to the new hardware.

**Note** Skip to Step 15 incase of removing and replacing with a different IOM or FEX during migration. For more information on the compatibility of IOM or FEX , see [Ports on the Cisco UCS Fabric Interconnects](#)

**Step 14** Reconfigure the server ports that had been unconfigured in Step 4.

- a) If you have changed port mappings, you may need to reacknowledge the IOM, FEX, or direct-connect rack server connected to the subordinate fabric interconnect.
- b) Verify and if necessary reconfigure Ethernet ports as server ports.
- c) Skip to Step 16 to verify the data path.

**Step 15** Remove and replace the new IOM or FEX and reconfigure the server ports.

- a) Reconfigure to the same port to maintain the port mappings and acknowledge the IOM or FEX connected to the subordinate fabric interconnect.
- b) Verify and if necessary reconfigure Ethernet ports as server ports.

**Note** For more information, see [Migrate to Cisco UCS IOM 2408](#)

**Step 16** Verify that the data path is ready.

For more information, see the *Verifying that Dynamic vNICs Are Up and Running* section in the *Guidelines and Prerequisites* chapter of the [Cisco UCS Manager Firmware Management Guide](#).

Ensure that all faults are resolved before proceeding.

- a) Verify and if necessary reconfigure the SAN pin group for FC ports in the associated service profile.
- b) Verify and if necessary reconfigure the LAN pin group for Ethernet ports in the associated service profile.
- c) Verify and if necessary reconfigure the port channel for uplink Ethernet ports.

**Step 17** Restart the stopped traffic flows by disabling fabric evacuation.

**Step 18** Promote the subordinate fabric interconnect to primary, and repeat the process on the second new Cisco UCS 6536 Fabric Interconnect.

Cable the second new fabric interconnect identically to the first, and allow the reconfiguration done to be applied to the second new fabric interconnect as well.

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