



Configure UCS Servers

This section explains how to configure and prepare UCS servers for Cisco Smart PHY software installation.

- Configure the servers using the [Cisco Integrated Management Controller \(CIMC\)](#).
- Install the ESXi Hypervisor.
- Add the ESXi hosts to a vSphere cluster using VMware vCenter.

For more details, see the following sections.

- [Install and Configure Cisco Smart PHY Server, on page 1](#)
- [Add Smart PHY ESXi Hosts to vSphere Virtual Infrastructure, on page 3](#)

Install and Configure Cisco Smart PHY Server

To install and configure the Cisco Smart PHY server, do the following:

1. Install UCS Server
2. Update Firmware
3. Configure Boot Drives
4. Configure Data Drives
5. Install VMWare ESXi Hypervisor
6. Reboot ESXi Host and Set Boot Device

UCS Server Installation

Step 1 Rack mount the servers.

For more details, refer the [Cisco UCS C220 M5 Server Installation and Service Guide](#).

Step 2 Ensure both power supplies are connected on each server and power on the servers.

Step 3 Connect the network cables.

- For CIMC, use the 1 Gb Ethernet dedicated management port.

- For ESXi Host Management, use the Ethernet Port 1 of the Dual 1Gb/10Gb Intel X550T onboard NIC.
- For Cisco Smart PHY data, connect port 1 of the Intel XL710 40G NIC in PCIe Slot 1 to the SP Router/Leaf Switch using Cisco QSFP-40G-SR4.

Step 4 Connect the UCS KVM console adapter or connect a keyboard and a monitor directly to the server.

Step 5 Configure the Cisco IMC through the KVM console and update the [Network Settings](#)

Update Firmware

Download the latest Hardware Update Utility for the UCS C220 M5 server from [Cisco's Software Download](#) site. The Utility helps you to update the CIMC, BIOS, and device firmware for storage controllers, network adapters, SSDs, and other components.

Configure Boot Drives

Step 1 Enable the Cisco MSTOR Boot Optimized M.2 RAID Controller.

Step 2 Create RAID 1 virtual drive from 2 x M.2 SSD drives.

Step 3 Set Stripe Size to 64 KB.

Configure Data Drives

Step 1 Enable Cisco 12G SAS Modular RAID Controller.

Step 2 Create RAID 5 enabled virtual drive using 4 x SSDs.

Step 3 Set Stripe Size to 64 KB.

Step 4 Set the Write Cache Policy to Write Back with Good BBU.

Install the VMWare ESXi Hypervisor

Step 1 Install VMware ESXi 6.5 Update 3 on the M.2 RAID 1 Virtual Drive (Boot Drive).

Use the Cisco Custom ISO: `vmware_esxi_6.5.0_13932383_Custom_Cisco_6.5.3.1.iso`

Step 2 Set a password for the root user per the installation process.

Step 3 Reboot the VMware ESXi host according to the installation process.

Reboot ESXi Host and Set Boot Device

- Step 1** Interrupt the boot process with F2 after the host resets and boot into the BIOS.
 - Step 2** Under the **Boot Options** tab set the **Boot Option #1** to the UEFI target: `VMWARE ESXi`
 - Step 3** Disable all other boot options.
 - Step 4** Save changes and exit.
 - Step 5** Confirm whether the host boots directly into VMware ESXi.
-

Add Smart PHY ESXi Hosts to vSphere Virtual Infrastructure

- Step 1** Configure ESXi host management networking.
 - a) Log in to the ESXi host through the DCUI with the root account.
 - b) Configure the Management Network: Update IP configuration, DNS configuration, custom DNS suffixes, and VLAN ID (if required.)
 - Step 2** Add ESXi hosts to VMWare vCenter server.
 - a) In vCenter, create a new, dedicated cluster for Smart PHY.
 - Do not enable DRS or any HA features.
 - b) Add each new Smart PHY ESXi host to the new Smart PHY cluster.
 - Step 3** Configure and enable required ESXi host features.
 - a) Configure time on the host: Enable NTP.
 - b) Apply ESXi host licenses.
 - c) Create a new datastore on the data drive storage device.
 - Step 4** Configure VM networking.
 - a) Ensure the VMWare vSwitch connectivity to the physical switch.
 - b) Create a PortGroup and vSwitch for K8s cluster node VM management network.
-

