Release Notes for Cisco UCS Tools

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Cisco UCS Tools

Cisco UCS Tools is a host utility vSphere Installation Bundle (VIB) that collects information about the Operating System and driver versions and makes this information available in Cisco Intersight.

This information helps Cisco Intersight evaluate compliance with the Hardware Compatibility Tool (HCL). Cisco UCS Tools uses Intelligent Platform Management Interface (IPMI) over Keyboard Controller Style (KCS) to send the information collected to Cisco IMC.

Cisco UCS Tools versions 2.x.x are ESXi host components (a set of VIBs) that include two VIBs:

- **Ucshostinventory**—Collects information about the operating system and driver versions on Cisco UCS servers and makes this information available in Cisco Intersight.
- **Ipmitoolsolution**—Customized by Cisco to read or write files on Cisco IMC. It sends the collected information to Cisco IMC using Intelligent Platform Management Interface (IPMI) over the Keyboard Controller Style (KCS) interface.

The 2.x.x versions of UCS Tools run as a daemon and collects the ESXi driver inventory and OS information using *esxcli* commands. It sends this information to Cisco IMC every 24 hours.

Unlike previous 1.x.x versions of UCS Tools, 2.x.x versions do **NOT** include the functionality to read configuration files from Cisco IMC or use them to configure the management network on the ESXi host.



Note UCS Tools versions 2.x.x are **NOT** supported on HyperFlex HX Data Platform and are not bundled with HyperFlex Data Platform upgrade bundles. The HyperFlex upgrade bundles will include the latest 1.x.x versions of UCS Tools.

Cisco UCS Tools versions 1.x.x include the following:

- Scripts to collect the ESXi driver inventory and OS information using **esxcli** commands and send this information to Cisco IMC
- Scripts to read configuration files from Cisco IMC and use it to configure the management network on the ESXi host
- The **ipmitool** binary, customized by Cisco to read or write files on Cisco IMC
- **init** scripts to invoke the inventory collection and network configuration during boot. The host inventory is collected every 24 hours starting with version 1.0.3-1OEM for ESXi 6.0/6.5 and 1.1.0-1OEM for ESXi 6.7 and above.

Revision History

If your ESXi version did not previously include UCS Tools, you can download and install it manually. The following table shows the release history of Cisco UCS Tools VIB Versions and the compatibility information with the ESXi versions. Ensure that you install the appropriate version of UCS Tools that corresponds to your Cisco OEM ESXi version to evaluate HCL compliance of your systems. If you want to download a Cisco Custom ESXi OEM image bundled with UCS Tools, search for the Cisco Custom OEM Images for preferred ESXi version on the VMware by Broadcom software download site.



Important

- The images on the VMware by Broadcom website might not contain the latest compatible VIB version. Cisco recommends that you refer to column 2 in the table for the latest VIB version and install it manually.
- For HyperFlex clusters, use the latest ESXi upgrade image posted on the Cisco.com Software Download page for HyperFlex HX Data Platform. The HyperFlex Data Platform upgrade bundle comprises of the of latest version of UCS tools at time of release. Do not use any other non-HyperFlex ESXi upgrade bundle (including the Cisco Custom OEM bundles on the VMware by Broadcom website) for HyperFlex clusters.

Table 1: Cisco UCS Tools Release History and Compatible 2.x.x Versions

ESXi Version	Latest Compatible Cisco Tools Version available on Cisco.com	Download location of the Cisco Custom Images on the VMware by Broadcom website
8.x	2.0.09	Download Cisco Custom Image for ESXi
9.x	2.1.08	

Table 2: Cisco UCS Tools Release History and Compatible 1.x.x Versions

ESXi Version	Latest Compatible Cisco Tools Version available on Cisco.com	Download location of the Cisco Custom Images on the VMware by Broadcom website	Download location of HyperFlex Upgrade bundles on Cisco.com
6.0	1.0.7-1OEM[1]	Download Cisco Custom Image for ESXi	HyperFlex HX Data Platform
6.5	1.0.12-1OEM		
6.7	1.1.12-1OEM		
7.0	1.2.6-1OEM		
8.0	1.3.6-1OEM		
8.0U3	1.4.3-1OEM[2]		
9.0	1.5.1-1OEM		

Note

- UCS Tools versions 2.x.x are **NOT** supported on HyperFlex HX Data Platform and are not bundled in the HyperFlex Data Platform upgrade bundles. The HyperFlex upgrade bundles will include the latest 1.x.x versions of UCS Tools.
- [1]Starting from Cisco UCS Tools VIB version **1.0.12-1OEM** VMware ESXi 6.0 will be not be supported.
- [2]UCS Tools VIB version 1.4.*x*-1OEM is compatible with VMware ESXi version 8.0U3 only and is not supported on any of the previous VMware ESXi versions.

System Requirements

Supported Operating Systems

- Cisco OEM VMware ESXi image

For information about the exact versions of the supported Operating System, see https://intersight.com/help/resources#compliance_with_hardware_compatibility_list_(hcl).

Driver Requirements

Cisco UCS Tools needs IPMI drivers to communicate with Cisco IMC. The following IPMI drivers are installed and enabled by default on the ESXi system:

- ipmi-ipmi-devintf
- ipmi-ipmi-msghandler
- ipmi-ipmi-si-drv

New Software Features

New Software Features in Cisco UCS Tools Versions 2.0.09-1OEM and 2.1.08-1OEM

- Support for end-to-end encryption of the VMware ESXi Secure Boot recovery key during service profile migration in Intersight.
- Support for collecting NVIDIA H100 NVL GPU driver information for HCL validation in Intersight.

New Software Features in Cisco UCS Tools Versions 2.0.6-1OEM and 2.1.5-1OEM

Beginning with Cisco UCS Tools versions 2.0.6 and 2.1.5, Cisco UCS Tools can collect and rotate the ESXi-generated recovery key that binds the operating system to specific hardware through the Trusted Platform Module (TPM). The key is stored in Cisco Intersight for secure persistence, enabling server profile migration between Cisco UCS servers.

New Software Features in Cisco UCS Tools Versions 2.0.2-1OEM and 2.1.2-1OEM

- UCS Tools are built using the latest Broadcom Damon Software Development Kit (DSDK) which provides enhanced security and resource management by automatic creation of security domain and resource pool for the tool by the ESXi OS.

- UCS Tools is supported on UCS C845A and UCS C885A M8 servers.
- Supports execution of UCS Tools when ESXi server is in lockdown mode.

New Software Features in Cisco UCS Tools VIB Version 1.5.1-1OEM

VMware ESXi Support

- UCS Tools is supported on ESXi version 9.0

New Software Features in Cisco UCS Tools VIB Version 1.2.6-1OEM, 1.3.6-1OEM, and 1.4.3-1OEM

- Added support for Intel's GPUs and AMD's GPUs.
- Bug fixes for NVIDIA's GPUs.

New Software Features in Cisco UCS Tools VIB Version 1.4.1-1OEM

VMware ESXi Support

- UCS Tools is supported on ESXi version 8.0U3



Note UCS Tools VIB version 1.4.1-1OEM is compatible with VMware ESXi version 8.0U3 only and is not supported on any of the previous VMware ESXi versions.

New Software Features in Cisco UCS Tools VIB Version 1.3.3-1OEM

VMware ESXi Support

- UCS Tools is supported on ESXi version 8.0U2

New Software Features in Cisco UCS Tools VIB Version 1.3.1-1OEM

VMware ESXi Support

- UCS Tools is supported on ESXi version 8.0

New Software Features in Cisco UCS Tools VIB Version 1.0.12-1OEM, 1.1.12-1OEM, and 1.2.1-1OEM

- Added the ability to inventory management network information such as uplink, vSwitch and port group information.
- Added the ability to change network configuration without requiring a full host reboot.
- Added the ability to rename Management vSwitch.
- Added optimization to reduce the number of periodic inventory updates.

New Software Features in Cisco UCS Tools VIB Version 1.0.7-1OEM and 1.1.5-1OEM

HCL GPU Support

- Capability to determine hardware compliance for Cisco UCS and Cisco HyperFlex HX-Series servers with GPUs.

New Software Features in Cisco UCS Tools VIB Version 1.1.2-1OEM

VMware ESXi Support

- UCS Tools is supported on ESXi version 7.0

New Software Features in Cisco UCS Tools VIB Version 1.0.3-1OEM and 1.1.0-1OEM

GPU Driver Inventory Support

- Cisco UCS Tools enhanced to support GPU driver inventory collection.
- Enhanced driver inventory collection to occur daily.

Install and Upgrade Guidelines

Downloading Cisco UCS Tools

The Cisco UCS Tools is packaged in the Cisco ESXi OEM images and is also available for download on Cisco.com. The location for each UCS Tools version is available in the Revision History table.

Installing and Upgrading UCS Tools Versions 2.x.x

After downloading the appropriate version of the Cisco UCS Tools, use these instructions to install it on the supported ESXi hosts.

1. Run the command to enter maintenance mode.

   ```
   [root@localhost:~]esxcli system maintenanceMode set -e=true
   ```

2. Run the command **esxcli software component apply -d <path to UCS Tool component file (.zip)>** to install UCS Tools.

   --depot | -d Specifies the full remote URL to the depot's index.xml, or a local file path to an offline bundle .zip file

   The following example shows that the command for ESXi version 8.0 and higher:

   ```
   [root@localhost:~]esxcli software component apply -d
   /tmp/CIS_bootbank_ucshostinventory_2.0.02-1OEM.802.0.0.22380479
   Installation Result
      Message: Operation finished successfully.
      Components Installed: ucs-tool-esxi_2.0-0.2
      Components Removed:
      Components Skipped:
      Reboot Required: false
      DPU Results:
   ```

3. Verify if the installation was successful and obtain additional information about the installed component.

   ```
   [root@localhost:~]esxcli software component list
   esxcli software component get -n ucs-tool-esxi
   esxcli software component list | grep ucs
   ucs-tool-esxi   ucstools  and ipmitool Daemon for VMware ESX 2.1-0.2  1.0 - Build 0002
    CIS  11-12-2025 VMwareAccepted  host
   ```

4. Exit maintenance mode.

```
[root@localhost:~]esxcli system maintenanceMode set -e=false
```

Note If this is your first time installing 2.x.x version of UCS Tools, either run the command **/etc/init.d/hostd restart** or reboot the host after completing the installation. Subsequent installations or upgrades do not require this restart step.

Installing and Upgrading UCS Tools Versions 1.x.x

Attention

- UCS Tools is supported on ESXi version 6.0 and higher.
- Standalone Cisco UCS S-series M5 servers must be running Cisco IMC 4.1(3c) or higher.
- If you are trying to evaluate the HCL compliance for HyperFlex servers, proceed to Step 3 directly.
- For all non-HyperFlex servers—If the Host Acceptance Level is **VMwareCertified** or **VMwareAccepted,** you cannot install the VIB unless you lower your Host Acceptance level to **PartnerSupported**. Steps 1 and 2 show the procedure to lower the Host Acceptance level. If your Host Acceptance level is already at **Community** or **PartnerSupported**, proceed to Step 3 directly.

  For more information about Host Acceptance Levels, see Understanding Acceptance levels for VIBs and Hosts.

- **ESXi Versions 7.0 and higher**
  - If you are using ESXi version 7.0 and higher, run the command `esxcli software component apply -d <path to UCS Tool component file (.zip)>` to install UCS Tools.
  - To ensure UCS Tools works with ESXi version 7.0 and higher:
    - Fabric Interconnect Attached Cisco UCS M5 servers must be running UCS Manager 4.0(4h) or 4.1(1c).
    - Standalone Cisco UCS M5 servers must be running Cisco IMC 4.0(4k) or 4.1(1f).

After downloading the appropriate version of the Cisco UCS Tools VIB, use the instructions below to install it on the supported ESXi hosts.

1. Run the command **esxcli software acceptance get** to obtain the current ESXi host acceptance level. To install the UCS Tools VIB, you must set the ESXi host acceptance level to `PartnerSupported`.

   The following example shows that the supported current acceptance level is set to `VMwareAccepted`:

```
[root@hx-ucsm-qa-node-1:/opt/ucs_tool_esxi]
esxcli software acceptance get
VMwareAccepted
```

2. Run the command **esxcli software acceptance set --level=PartnerSupported** to set the current ESXi host acceptance level.

   The following example shows that the supported current acceptance level is set to `PartnerSupported`:

```
[root@hx-ucsm-qa-node-1:/opt/ucs_tool_esxi] esxcli software acceptance set
--level=PartnerSupported
Host acceptance level that is changed to 'PartnerSupported'
```

3. Download or copy the VIB onto the ESXi host and run the command. Copy the VIB to /tmp.

   a. **For ESXi versions prior to 7.0**

      Run the command **esxcli software vib install -v <path pointing to location of VIB>**

      --viburl|-v Specifies the URLs to the VIB packages to install.

      The following example shows the command for ESXi versions prior to 7.0:

      ```
      [root@localhost:~] esxcli software vib install -v /tmp/ucs-tool-esxi-1.0.4.vib
      Installation Result
         Message: Operation finished successfully.
         Reboot Required: false
         VIBs Installed: CIS_bootbank_ucs-tool-esxi_1.0.4-1OEM
         VIBs Removed:
         VIBs Skipped:
      [root@localhost:~]
      ```

   b. **For ESXi version 7.0 and higher**

      Run the command **esxcli software component apply -d /tmp/ucs-tool-esxi.zip**

      --depot | -d Specifies the full remote URL to the depot's index.xml, or a local file path to an offline bundle .zip file

      The following example shows the command for ESXi version 7.0 and higher:

      ```
      [root@localhost:~] esxcli software component apply -d /tmp/ucs-tool-esxi.zip
      Installation Result
         Components Installed: CIS-ucs-tool-esxi_1.1.2-1OEM
         Components Removed:
         Components Skipped:
         Message: Operation finished successfully.
         Reboot Required: false
      [root@localhost:~]
      ```

4. Verify if the installation was successful and obtain more information about the installed VIBs.

   a. **For ESXi versions prior to 7.0**

      Run the command **esxcli software vib list** to obtain more information about the installed VIBs.

      The following example shows the list of VIBs installed on the ESXi host.

      ```
      [root@hx-ucsm-qa-node-1:/opt/ucs_tool_esxi] esxcli software vib list
      ucs-tool-esxi       1.0.1-1OEM
      Cisco_Systems_Inc.  PartnerSupported  2017-11-06
      ```

   b. **For ESXi version 7.0 and higher**

      Run the command `esxcli software component list | grep ucs` to obtain more information about the installed VIBs.

      esxcli software component get -n CIS-ucs-tool-esxi

      ```
       [root@localhost:~] esxcli software component list | grep ucs
      CIS-ucs-tool-esxi  1.1.2-1OEM
      Cisco   06-04-2020     PartnerSupported
      ```

5. Get detailed information about the VIB.

a. **For ESXi versions prior to 7.0**

   Run the command **esxcli software vib get --vibname ucs-tool-esxi** to view detailed information about the VIB.

b. **For ESXi version 7.0 and higher**

   Run the command `esxcli software component get -n CIS-ucs-tool-esxi` to view detailed information about the VIB.

```
root@localhost:~] esxcli software component get -n CIS-ucs-tool-esxi
CIS-ucs-tool-esxi_1.1.2-1OEM
   Name: CIS-ucs-tool-esxi
   Display Name: CIS-ucs-tool-esxi
   Version: 1.1.2-1OEM
   Display Version: 1.1.2-1OEM
   VIBs: CIS_bootbank_ucs-tool-esxi_1.1.2-1OEM
   Vendotr: Cisco
   Summary: ucs_tool_esxi: [Fling] Cisco Out-of-band Host Inventory and Network
Configuration
   Severity: general
   Urgency: important
   Category: enhancement
   Release Type: extension
   Kburl:
https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/release/notes/UCS-Tools-ESXi-RN.html

   Description: Out-of-band host inventory and network configuration using Cisco
CIMC.
   Contact: Cisco Technical Assistance Center (TAC)
http://tools.cisco.com/ServiceRequestTool/create/
   ReleaseDate: 06-04-2020
```

Note

- Starting from Cisco UCS Tools VIB version **1.0.12-1OEM**, **1.1.12-1OEM**, and **1.2.1-1OEM** you can change network configuration without requiring a full host reboot and rename Management vSwitch.
- Starting from Cisco UCS Tools VIB version **1.0.12-1OEM** VMware ESXi 6.0 will be not be supported.

Viewing Logs

You can view the following logs in **syslog (/var/log/syslog.log)**:

- Run the command **cat /var/log/syslog.log | grep ucs-tool-esxi-inv** to obtain the logs for inventory collection.
- Run the command **cat /var/log/syslog.log | grep ucs-tool-esxi-cfg** to obtain the logs for host configuration.

Resolved Caveats

Versions 2.0.2-1OEM and 2.1.2-1OEM

The following caveat is resolved in versions 2.0.2-1OEM and 2.1.2-1OEM.

Table 3: Resolved Caveats in Version 1.1.6-1OEM

Defect ID	Description	First Bundle Affected	Resolved in Release
CSCwk41784	ucs_tool_esxi not working when lockdown mode enabled on ESXi host	1.2.2	2.0.2 and 2.1.2

Version 1.1.6-1OEM

The following caveats are resolved in Version 1.1.6-1OEM.

Table 4: Resolved Caveats in Version 1.1.6-1OEM

Defect ID	Description	First Bundle Affected	Resolved in Release
CSCvw46864	VMware vSphere 7.0 shows incorrect UCS Tools version.	1.1.2	1.1.6

Version 1.1.0-1OEM

The following caveats are resolved in Version 1.1.0-1OEM.

Table 5: Resolved Caveats in Version 1.1.0-1OEM

Defect ID	Description	First Bundle Affected	Resolved in Release
CSCvo23711	GPU driver inventory is collected from Cisco UCS Tools.	1.0.1	1.0.3, 1.1.0

Version 1.0.3-1OEM

The following caveats are resolved in Version 1.0.3-1OEM.

Table 6: Resolved Caveats in Version 1.0.3-1OEM

Defect ID	Description	First Bundle Affected	Resolved in Release
CSCvo23711	GPU driver inventory must be collected from Cisco UCS Tools.	1.0.1	1.0.3

Version 1.0.1-1OEM

The following caveats are resolved in Version 1.0.1-1OEM.

Table 7: Resolved Caveats in Version 1.0.1-1OEM

Defect ID	Description	First Bundle Affected	Resolved in Release
CSCvf53511	UCS tools host inventory needs ESXi update version, patch version. Network config should set gateway.	1.0.1	1.0.1