



# Release Notes for Cisco UCS Management Pack, Release 2.x For VMware vRealize Operations Manager

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## Revision History

Release	Date	Description
2.0(1)	April 2016	Published release notes for Cisco UCS Management Pack, Release 2.0(1)
2.0(2)	May 2016	Updated with information on Release 2.0(2)
2.0(3)	June 2017	Updated with information on Release 2.0(3)
	September 2017	Added support for Cisco UCS Manager Release 3.2
	April 2018	Added support for VMware vRealize Operations Manager Version 6.7

## Introduction

Cisco UCS Management Pack for the vRealize Operations Manager contains UCS Manager Adapter which enables monitoring of the UCS domains on the Operations Manager web UI. The pack uses the XML API exposed by the Cisco UCS Manager to get the data from the UCS domains. This data is used for monitoring the health and faults of the various resources in the UCS domain. This pack also establishes the relation between physical and virtual infrastructure.

## System Requirements

The following is the support matrix for Cisco UCS Management Pack for the vRealize Operations Manager:

Cisco UCS Management Pack Version	Supported VMware vRealize Operations Manager Version	Supported UCS Manager Version
2.0(3)	6.3, 6.4, 6.5, 6.6, and 6.7	2.1, 2.2, 3.1 and 3.2
2.0(2)	6.0, 6.1, 6.2, 6.3 and 6.4	2.1, 2.2, 3.0 and 3.1
2.0(1)	6.0 and 6.1	2.1, 2.2, 3.0 and 3.1



**Note** Running the UCS Management pack v2.0(3) for vROPs with Cisco UCS Manager Release 3.0 will display a collection status error. If you are on Cisco UCS Manager Release 3.0, upgrade to Cisco UCS Manager Release 3.1 or later releases to avoid this issue.



**Note** If **Only TLS 1.2** option is enabled in Cisco UCS Manager, then use Cisco UCS Management Pack 2.0(3) or higher to manage your servers.



**Note** Ensure that the vRealize operations manager configuration is as per the sizing guidelines. For more information on the sizing guidelines, see [https://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=2093783](https://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2093783).

## Upgrade to Cisco UCS Management Pack, Release 2.x

Any Cisco UCS Management Pack, Release 2.x can be upgraded to the latest release. Any upgrade prior to Release 2.0(1) is not supported. To upgrade the Management Pack, see the [Cisco UCS Management Pack for VMware vRealize Operations Manager](#).



**Important** If you are upgrading from 2.0(1) or 2.0(2) to higher versions, we recommend that you do the following:

- During installation, check the **Reset Default Content** check box for overwriting the alert definitions
- Restart the vRealize Operations Manager after the installation
- Reconfigure all the adapter instances

## New and Changed Features

This section provides an overview of the significant new and changed features in this release. This section does not provide an exhaustive list of all enhancements included in this release.

**Release 2.0(3)**

This section briefly describes the key features introduced in Cisco UCS Management Pack.

- Support for manual discovery of the resources
- Support for creating adapter instances using proxy server details
- Added resource kinds, metrics and properties related to S3X60 chassis and servers. For more information, see the following **Resource Kinds and Metrics** table

**Resource Kinds and Metrics**

The following table lists the resource kinds and the supported metrics for this release:

<b>Resource Kind</b>	<b>Properties</b>	<b>Metrics</b>
UCS Chassis	Storage Enclosure   Serial Storage Enclosure   Model Storage Enclosure   Vendor Storage Enclosure   Local Disk   Serial Storage Enclosure   Local Disk   Model Storage Enclosure   Local Disk   Firmware Version Storage Enclosure   Local Disk   Servers Associated Storage Enclosure   Local Disk   Vendor	
UCS Server	UUID Blade Server   Storage Enclosure   Serial Blade Server   Storage Enclosure   Model Blade Server   Storage Enclosure   Vendor Blade Server   Storage Enclosure   Local Disk   Serial Blade Server   Storage Enclosure   Local Disk   Model Blade Server   Storage Enclosure   Local Disk   Firmware Version Blade Server   Storage Enclosure   Local Disk   Vendor	

Resource Kind	Properties	Metrics
UCS FI IO Module		Backplane Port   Error Counter   Align-Delta(packets/sec) Backplane Port   Error Counter   Deferred-Tx-Delta(packets/sec) Backplane Port   Error Counter   FCS-Delta(packets/sec) Backplane Port   Error Counter   Int-Mac-Rx-Delta(packets/sec) Backplane Port   Error Counter   Int-Mac-Tx-Delta(packets/sec) Backplane Port   Error Counter   Out Discard-Delta(packets/sec) Backplane Port   Error Counter   Rx Error-Delta(packets/sec) Backplane Port   Error Counter   Rx Error-Total(packets) Backplane Port   Error Counter   Tx Error-Delta(packets/sec) Backplane Port   Error Counter   Tx Error-Total(packets) Backplane Port   Error Counter   Under-Sized-Delta(packets/sec) Backplane Port   Rx Counters   Rx-Delta (Bps) Backplane Port   Rx Counters   Rx-Delta (packets/sec) Backplane Port   Rx Counters   Rx-Total (bytes) Backplane Port   Rx Counters   Rx-Total (packets) Backplane Port   Tx Counters   Tx-Delta (Bps) Backplane Port   Tx Counters   Tx-Delta (packets/sec) Backplane Port   Tx Counters   Tx-Total (bytes) Backplane Port   Tx Counters   Tx-Total (packets)

Resource Kind	Properties	Metrics
UCS System IO Controller	Serial Model Firmware Version Shared Adapter   Serial Shared Adapter   Model Shared Adapter   Firmware Version	Operational State Temperature   Cmc Temperature (Celsius) Temperature   Front Temperature (Celsius) Temperature   Mid Temperature (Celsius) Temperature   Rear Temperature (Celsius) Temperature   Vic Temperature (Celsius) Shared Adapter   Operational State Shared Adapter   Fabric Port   NI Error Counters   Too Short (errors) Shared Adapter   Fabric Port   NI Error Counters   Too Long (errors) Shared Adapter   Fabric Port   NI Error Counters   In Range (errors) Shared Adapter   Fabric Port   NI Error Counters   Frame Tx (errors) Shared Adapter   Fabric Port   NI Error Counters   Crc (errors)

Resource Kind	Properties	Metrics
UCS Service Profile		iSCSI vNIC   Error Counters   Rx-Error-Delta (packets/Sec) iSCSI vNIC   Error Counters   Tx-Error-Delta (packets/Sec) iSCSI vNIC   Error Counters   Rx-Error-Total (packets) iSCSI vNIC   Error Counters   Tx-Error-Total (packets) iSCSI vNIC   Rx Counters   Rx-Delta (Bps) iSCSI vNIC   Rx Counters   Rx-Delta (packets/sec) iSCSI vNIC   Rx Counters   Rx-Total (bytes) iSCSI vNIC   Rx Counters   Rx-Total (packets) iSCSI vNIC   Tx Counters   Tx-Delta (Bps) iSCSI vNIC   Tx Counters   Tx-Delta (packets/sec) iSCSI vNIC   Tx Counters   Tx-Total (bytes) iSCSI vNIC   Tx Counters   Tx-Total (packets)

### Release 2.0(2)

This section briefly describes the key features introduced in Cisco UCS Management Pack.

- Support for vRealize Operations Manager 6.2, 6.3, and 6.4
- Added model, serial, vendor, and the firmware version for hardware resources as properties in UCS Manager adapter. For more information, see the following **Resource Kinds and Metrics** table
- Includes defect fixes

### Resource Kinds and Metrics

The following table lists the resource kinds and the supported metrics for this release:

Resource Kind	Properties	Metrics
UCS Chassis	Serial Operational State Model PSU   Serial PSU   Model PSU   Firmware Version Fan Module   Serial Fan Module   Model Fan Module   Fan   Serial Fan Module   Fan   Model	Operational State Input Power (watts) Output Power (watts) Fan Module   Exhaust Temperature Fan Module   Fan   Speed (RPM) PSU   Input Voltage (volts) PSU   Internal Temperature (celsius) PSU   Output Current (Amps) PSU   Output Power (watts) PSU   Output Voltage (volts)
UCS FI IO Module	Serial Model Firmware Version	Operational State

Resource Kind	Properties	Metrics
UCS Server		



Resource Kind	Properties	Metrics
	Serial	Operational State
	Current Operational Power	Operational Power
	Model	Blade Server   Server Motherboard   Memory Array   Memory Unit   DDR Array Temperature (celsius)
	BIOS Version	
	Board Controller Version	Blade Server   Server Motherboard   Power   Consumed Power (watts)
	CIMC Controller Version	
	Blade Server   Server Adaptor Unit   Model	Blade Server   Server Motherboard   Power   Input Current (Amps)
	Blade Server   Mother Board   Storage Controller   Firmware Version	Blade Server   Server Motherboard   Power   Input Voltage (volts)
	Blade Server   Mother Board   Storage Controller   Model	Blade Server   Server Motherboard   Processor Unit   CPU Temperature (celsius)
	Blade Server   Mother Board   Storage Controller   Serial	Blade Server   Server Motherboard   Processor Unit   Input Current (Amps)
	Blade Server   Mother Board   Storage Controller   Vendor	Blade Server   Server Motherboard   Temperature   Front Temperature (celsius)
	Blade Server   Mother Board   Storage Controller   Local Disk   Firmware Version	Blade Server   Server Motherboard   Temperature   Rear Temperature (celsius)
	Blade Server   Mother Board   Storage Controller   Local Disk   Model	Rack Unit   Server Motherboard   Memory Array   Memory Unit   DDR Array Temperature (celsius)
	Blade Server   Mother Board   Storage Controller   Local Disk   Serial	Rack Unit   Server Motherboard   Power   Consumed Power (watts)
	Blade Server   Mother Board   Storage Controller   Local Disk   Vendor	Rack Unit   Server Motherboard   Power   Input Current (Amps)
	Blade Server   Server Adaptor Unit   Serial	Rack Unit   Server Motherboard   Power   Input Voltage (volts)
	Blade Server   Server Adaptor Unit   Firmware Version	Rack Unit   Server Motherboard   Processor Unit   CPU Temperature (celsius)
	Rack Unit   Mother Board   Storage Controller   Firmware Version	Rack Unit   Server Motherboard   Processor Unit   Input Current (Amps)
	Rack Unit   Mother Board   Storage Controller   Model	Rack Unit   Server Motherboard   Temperature-Stats   Front Temperature (celsius)
	Rack Unit   Mother Board   Storage Controller   Serial	
	Rack Unit   Mother Board   Storage Controller   Vendor	Rack Unit   Fan Module   Fan

Resource Kind	Properties	Metrics
	Rack Unit   Mother Board   Storage Controller   Local Disk   Model Rack Unit   Mother Board   Storage Controller   Local Disk   Serial Rack Unit   Mother Board   Storage Controller   Local Disk   Firmware Version Rack Unit   Mother Board   Storage Controller   Local Disk   Vendor Rack Unit   Server Adaptor Unit   Model Rack Unit   Server Adaptor Unit   Serial Rack Unit   Server Adaptor Unit   Firmware Version Rack Unit   PSU   Model Rack Unit   PSU   Serial Rack Unit   Fan Module   Model Rack Unit   Fan Module   Serial Rack Unit   Fan Module   Fan   Model Rack Unit   Fan Module   Fan   Serial Rack Unit   PSU   Firmware Version	Speed (RPM) Rack Unit   Fan Module   Exhaust Temperature (celsius) Rack Unit   PSU   Input Voltage (volts) Rack Unit   PSU   Internal Temperature (celsius) Rack Unit   PSU   Output Current (Amps) Rack Unit   PSU   Output Power (watts) Rack Unit   PSU   Output Voltage (volts)
UCS Fabric Interconnect	Serial Model Kernel Version Firmware Version PSU   Serial PSU   Model PSU   Firmware Version Fan Module   Serial Fan Module   Model Fan Module   Fan   Serial Fan Module   Fan   Model	Operational State Load-Average Memory Available-Average Memory Cached- Average Fan Module   Fan   Speed (RPM) Fan Module   Exhaust Temperature (celsius) PSU   Current (A) PSU   Power (W) PSU   Voltage (V)

Resource Kind	Properties	Metrics
UCS IO Module	Serial Model Firmware Version	Operational State Backplane Port   Error Counter   Align-Delta (packets/sec) Backplane Port   Error Counter   Deferred-Tx-Delta (packets/sec) Backplane Port   Error Counter   FCS-Delta (packets/sec) Backplane Port   Error Counter   Int-Mac-Rx-Delta (packets/sec) Backplane Port   Error Counter   Int-Mac-Tx-Delta (packets/sec) Backplane Port   Error Counter   Out Discard-Delta (packets/sec) Backplane Port   Error Counter   Rx Error-Delta (packets/sec) Backplane Port   Error Counter   Rx Error-Total (packets) Backplane Port   Error Counter   Tx Error-Delta (packets/sec) Backplane Port   Error Counter   Tx Error-Total (packets) Backplane Port   Error Counter   Under-Sized-Delta (packets/sec) Backplane Port   Rx Counter   Rx-Delta (Bps) Backplane Port   Rx Counter   Rx-Delta (packets/sec) Backplane Port   Rx Counter   Rx-Total (bytes) Backplane Port   Rx Counter   Rx-Total (packets) Backplane Port   Tx Counter   Tx-Delta (Bps) Backplane Port   Tx Counter   Tx-Delta (packets/sec) Backplane Port   Tx Counter   Tx-Total (bytes) Backplane Port   Tx Counter   Tx-Total (packets)

Resource Kind	Properties	Metrics
UCS Fabric Extender	Serial Model Firmware Version PSU   Serial PSU   Model PSU   Firmware Version Fan   Serial Fan   Model	Operational State PSU   Current (A) PSU   Power (W) PSU   Voltage (V) Fan   Speed (RPM)

### Release 2.0(1)

This section briefly describes the key features introduced in Cisco UCS Management Pack.

- Support to collect metrics data for the resources discovered for the configured adapter instance automatically. For more information, see the following **Resource Kinds and Metrics** table
- Support for the following alerts generated by the adapter:
  - UCS fault alerts
  - UCS domain unreachability alerts
  - Server power state change alerts
- Support to view UCS components and their relationship with other UCS and vCenter components in an inventory tree
  - UCSM Overview
  - UCS Health Tree
  - UCS Fabric Interconnect Traffic Statistics
  - UCS Power and Temperature Summary
  - UCS Server Motherboard Statistics

### Resource Kinds and Metrics

The following table lists the resource kinds and the supported metrics for this release:

Resource Kind	Property	Metrics
UCS Domain	UCS Manager Version	Availability

Resource Kind	Property	Metrics
UCS Chassis	Serial	Operational State Input Power (watts) Output Power (watts) Fan Module   Exhaust Temperature Fan Module   Fan   Speed (RPM) PSU   Input Voltage (volts) PSU   Internal Temperature (celsius) PSU   Output Current (Amps) PSU   Output Power (watts) PSU   Output Voltage (volts)

Resource Kind	Property	Metrics
UCS Server	Serial	

Resource Kind	Property	Metrics
		Operational State
		Operational Power
		Blade Server   Server Motherboard   Memory Array   Memory Unit   DDR Array Temperature (celsius)
		Blade Server   Server Motherboard   Power   Consumed Power (watts)
		Blade Server   Server Motherboard   Power   Input Current (Amps)
		Blade Server   Server Motherboard   Power   Input Voltage (volts)
		Blade Server   Server Motherboard   Processor Unit   CPU Temperature (celsius)
		Blade Server   Server Motherboard   Processor Unit   Input Current (Amps)
		Blade Server   Server Motherboard   Temperature   Front Temperature (celsius)
		Blade Server   Server Motherboard   Temperature   Rear Temperature (celsius)
		Rack Unit   Server Motherboard   Memory Array   Memory Unit   DDR Array Temperature (celsius)
		Rack Unit   Server Motherboard   Power   Consumed Power (watts)
		Rack Unit   Server Motherboard   Power   Input Current (Amps)
		Rack Unit   Server Motherboard   Power   Input Voltage (volts)
		Rack Unit   Server Motherboard   Processor Unit   CPU Temperature (celsius)
		Rack Unit   Server Motherboard   Processor Unit   Input Current (Amps)
		Rack Unit   Server Motherboard   Temperature-Stats   Front Temperature (celsius)
		Rack Unit   Fan Module   Fan

Resource Kind	Property	Metrics
		Speed (RPM) Rack Unit   Fan Module   Exhaust Temperature (celsius) Rack Unit   PSU   Input Voltage (volts) Rack Unit   PSU   Internal Temperature (celsius) Rack Unit   PSU   Output Current (Amps) Rack Unit   PSU   Output Power (watts) Rack Unit   PSU   Output Voltage (volts)
UCS Fabric Interconnect	Serial	Operational State Load-Average Memory Available-Average Memory Cached- Average Fan Module   Fan   Speed (RPM) Fan Module   Exhaust Temperature (celsius) PSU   Current (A) PSU   Power (W) PSU   Voltage (V)



Resource Kind	Property	Metrics
UCS Service Profile		

Resource Kind	Property	Metrics
		Association State vNIC   Error Counter   Rx-Error-Delta (packets/sec) vNIC   Error Counter   Tx-Error-Delta (packets/sec) vNIC   Error Counter   Rx-Error-Total (packets) vNIC   Error Counter   Tx-Error-Total (packets) vNIC   Rx Counter   Rx-Delta (Bps) vNIC   Rx Counter   Rx-Delta (packets/sec) vNIC   Rx Counter   Rx-Total (bytes) vNIC   Rx Counter   Rx-Total (packets) vNIC   Tx Counter   Tx-Delta (Bps) vNIC   Tx Counter   Tx-Total (Bps) vNIC   Tx Counter   Tx-Total (packets/sec) vNIC   Tx Counter   Tx-Delta (packets/sec) vHBA   Error Counter   Rx-Error-Delta (packets/sec) vHBA   Error Counter   Tx-Error-Delta (packets/sec) vHBA   Error Counter   Rx-Error-Total (packets) vHBA   Error Counter   Tx-Error-Total (packets) vHBA   Rx Counter   Rx-Delta (Bps) vHBA   Rx Counter   Rx-Delta (packets/sec) vHBA   Rx Counter   Rx-Total (bytes) vHBA   Rx Counter   Rx-Total (packets) vHBA   Tx Counter   Tx-Delta

Resource Kind	Property	Metrics
		(Bps) vHBA   Tx Counter   Tx-Delta (packets/sec) vHBA   Tx Counter   Tx-Total (bytes) vHBA   Tx Counter   Tx-Total (packets)

Resource Kind	Property	Metrics
UCS IO Module	Serial	Operational State Backplane Port   Error Counter   Align-Delta (packets/sec) Backplane Port   Error Counter   Deferred-Tx-Delta (packets/sec) Backplane Port   Error Counter   FCS-Delta (packets/sec) Backplane Port   Error Counter   Int-Mac-Rx-Delta (packets/sec) Backplane Port   Error Counter   Int-Mac-Tx-Delta (packets/sec) Backplane Port   Error Counter   Out Discard-Delta (packets/sec) Backplane Port   Error Counter   Rx Error-Delta (packets/sec) Backplane Port   Error Counter   Rx Error-Total (packets) Backplane Port   Error Counter   Tx Error-Delta (packets/sec) Backplane Port   Error Counter   Tx Error-Total (packets) Backplane Port   Error Counter   Under-Sized-Delta (packets/sec) Backplane Port   Rx Counter   Rx-Delta (Bps) Backplane Port   Rx Counter   Rx-Delta (packets/sec) Backplane Port   Rx Counter   Rx-Total (bytes) Backplane Port   Rx Counter   Rx-Total (packets) Backplane Port   Tx Counter   Tx-Delta (Bps) Backplane Port   Tx Counter   Tx-Delta (packets/sec) Backplane Port   Tx Counter   Tx-Total (bytes) Backplane Port   Tx Counter   Tx-Total (packets)

Resource Kind	Property	Metrics
UCS Fabric Extender	Serial	Operational State PSU   Current (A) PSU   Power (W) PSU   Voltage (V) Fan   Speed (RPM)

Resource Kind	Property	Metrics
UCS FI Server Port UCS FI Uplink Port UCS FI FcoE Storage Port UCS FI FcoE Uplink Port UCS FI Appliance Port UCS FI Eth Port Channel	Operating Speed	Operational State Error Counter   Align-Delta (packets/sec) Error Counter   Deferred-Tx-Delta (packets/sec) Error Counter   FCS-Delta (packets/sec) Error Counter   Int-Mac-Rx-Delta (packets/sec) Error Counter   Int-Mac-Tx-Delta (packets/sec) Error Counter   Out Discard-Delta (packets/sec) Error Counter   Rx Error-Delta (packets/sec) Error Counter   Rx Error-Total (packets) Error Counter   Tx Error-Delta (packets/sec) Error Counter   Tx Error-Total (packets) Error Counter   Under-Sized-Delta (packets/sec)ra Rx Counter   Rx-Delta (Bps) Rx Counter   Rx-Delta (packets/sec) Rx Counter   Rx-Total (bytes) Rx Counter   Rx-Total (packets) Rx Counter   Rx-Utilization (%) Tx Counter   Tx-Delta (Bps) Tx Counter   Tx-Delta (packets/sec) Tx Counter   Tx-Total (bytes) Tx Counter   Tx-Total (packets) Tx Counter   Tx-Utilization (%)

Resource Kind	Property	Metrics
UCS FI FC Port UCS FI FCoE Port Channel UCS FI FC Port Channel	Operating Speed	Operational State Error Counter   Rx-Delta (packets/sec) Error Counter   Rx Error-Total (packets) Error Counter   Tx-Delta (packets/sec) Error Counter   Tx Error-Total (packets) Rx Counter   Rx-Delta (Bps) Rx Counter   Rx-Delta (packets/sec) Rx Counter   Rx-Total (bytes) Rx Counter   Rx-Total (packets) Rx Counter   Rx-Utilization (%) Tx Counter   Tx-Delta (Bps) Tx Counter   Tx-Delta (packets/sec) Tx Counter   Tx-Total (bytes) Tx Counter   Tx-Total (packets) Tx Counter   Tx-Utilization (%) <b>Note</b> Rx Utilization and Tx Utilization metrics are not supported for UCS FI FCoE Port Channel.
UCS FI IO Module	Serial	Operational State

## Resolved Caveats

The following table lists the resolved caveats in the Cisco UCS Management Pack for vROps:

Defect ID	Symptom	First Affected Release	Resolved in Release
CSCuw47776	Manual discovery feature is not supported in this release	2.0(1)	2.0(3)
CSCuz18132	FI and FI Ethernet port relationship is not updated	2.0(1)	2.0(2)

## Related Cisco UCS Documentation and Documentation Feedback

For more information, you can access related documents from the following links:

- [Cisco UCS Management Pack User Guide, Release 2.x for VMware vRealize Operations Manager](#)
- [Cisco UCS Documentation Roadmap](#)
- [Release Bundle Contents for Cisco UCS Software, Release 2.1](#)

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