Cisco UCS Director C880 M4 Server Management Guide, Release 6.0

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Preface

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Audience

This guide is intended primarily for data center administrators who use Cisco UCS Director and who have responsibilities and expertise in one or more of the following:

- Server administration

- Storage administration

- Network administration

- Network security

- Virtualization and virtual machines

Conventions

Text Type	Indication
GUI elements	GUI elements such as tab titles, area names, and field labels appear in **this font**. Main titles such as window, dialog box, and wizard titles appear in **this font**.
Document titles	Document titles appear in *this font*.
TUI elements	In a Text-based User Interface, text the system displays appears in `this font`.

Text Type	Indication
System output	Terminal sessions and information that the system displays appear in `this font`.
CLI commands	CLI command keywords appear in **this font**. Variables in a CLI command appear in *this font*.
[ ]	Elements in square brackets are optional.
{x | y | z}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.

Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

Tip Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.

Warning   IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Related Documentation

Cisco UCS Director Documentation Roadmap

For a complete list of Cisco UCS Director documentation, see the *Cisco UCS Director Documentation Roadmap* available at the following URL: http://www.cisco.com/en/US/docs/unified_computing/ucs/ucs-director/doc-roadmap/b_UCSDirectorDocRoadmap.html.

Cisco UCS Documentation Roadmaps

For a complete list of all B-Series documentation, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/b-series-doc.

For a complete list of all C-Series documentation, see the *Cisco UCS C-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/c-series-doc.

Note   The *Cisco UCS B-Series Servers Documentation Roadmap* includes links to documentation for Cisco UCS Manager and Cisco UCS Central. The *Cisco UCS C-Series Servers Documentation Roadmap* includes links to documentation for Cisco Integrated Management Controller.

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to ucs-director-docfeedback@cisco.com. We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. RSS feeds are a free service.

New and Changed Information for this Release

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New and Changed Information for this Release

No significant changes were made to this guide for the current release.

C H A P T E R **2**

Overview

The chapter contains the following sections:

Cisco UCS Director

Cisco UCS Director is a complete, highly secure, end-to-end management, orchestration, and automation solution for a wide array of Cisco and non-Cisco data infrastructure components, and for the industry's leading converged infrastructure solutions based on the Cisco UCS and Cisco Nexus platforms. For a complete list of supported infrastructure components and solutions, see the Cisco UCS Director Compatibility Matrix.

Cisco UCS Director is a 64-bit appliance that uses the following standard templates:

• Open Virtualization Format (OVF) for VMware vSphere

• Virtual Hard Disk (VHD) for Microsoft Hyper-V

Management through Cisco UCS Director

Cisco UCS Director extends the unification of computing and network layers through Cisco UCS to provide you with comprehensive visibility and management of your data center infrastructure components. You can use Cisco UCS Director to configure, administer, and monitor supported Cisco and non-Cisco components. The tasks you can perform include the following:

• Create, clone, and deploy service profiles and templates for all Cisco UCS servers and compute applications.

• Monitor organizational usage, trends, and capacity across a converged infrastructure on a continuous basis. For example, you can view heat maps that show virtual machine (VM) utilization across all your data centers.

- Deploy and add capacity to converged infrastructures in a consistent, repeatable manner.

- Manage, monitor, and report on data center components, such as Cisco UCS domains or Cisco Nexus network devices.

- Extend virtual service catalogs to include services for your physical infrastructure.

- Manage secure multi-tenant environments to accommodate virtualized workloads that run with non-virtualized workloads.

Automation and Orchestration with Cisco UCS Director

Cisco UCS Director enables you to build workflows that provide automation services, and to publish the workflows and extend their services to your users on demand. You can collaborate with other experts in your company to quickly and easily create policies. You can build Cisco UCS Director workflows to automate simple or complex provisioning and configuration processes.

Once built and validated, these workflows perform the same way every time, no matter who runs the workflows. An experienced data center administrator can run them, or you can implement role-based access control to enable your users and customers to run the workflows on a self-service, as needed, basis.

With Cisco UCS Director, you can automate a wide array of tasks and use cases across a wide variety of supported Cisco and non-Cisco hardware and software data center components. A few examples of the use cases that you can automate include, but are not limited to:

- VM provisioning and lifecycle management

- Network resource configuration and lifecycle management

- Storage resource configuration and lifecycle management

- Tenant onboarding and infrastructure configuration

- Application infrastructure provisioning

- Self-service catalogs and VM provisioning

- Bare metal server provisioning, including installation of an operating system

About the Cisco C880 M4 Server

Please see the Cisco C880 M4 Server Installation Guide for information about the Cisco C880 M4 server.

Cisco C880 M4 Management Tasks You Can Perform in Cisco UCS Director

You can use Cisco UCS Director to perform management, monitoring, and reporting tasks for Cisco C880 M4 servers.

Configuration and Administration

- Management at the server level

- Standalone server configuration

• Compute connection

Monitoring and Reporting

You can also use Cisco UCS Director to monitor and report on your Cisco C880 M4 servers and their components, including:

• Power consumption

• Temperature

• Server availability

Supported Hardware

Please see Configuration 1 and Configuration 2 in the Cisco C880 M4 Hardware Guide for information about supported hardware for the Cisco C880 M4 server.

About Licenses

Cisco C880 M4 Server requires you to have base license for Cisco UCS Director and a physical bare metal server license.

For information about how to obtain, install, and update licenses, see the Cisco UCS Director Installation Guides.

CHAPTER **3**

Adding a Cisco C880 M4 Server

This chapter contains the following sections:

Summary of Steps to Add a Cisco C880 M4 Server

1 Adding a Pod
2 Adding an Account for a Cisco C880 M4 Server
3 Testing the Connection to a Cisco C880 M4 Account

Pods

A pod is a logical grouping of physical and virtual components, which includes one or more physical or virtual accounts, such as a Cisco C880 M4 account. Each pod is a module of network, compute, storage, and application components that work together to deliver networking services. The pod is a repeatable pattern, and its components maximize the modularity, scalability, and manageability of data centers.

Typically, a pod represents a single converged infrastructure stack.

If needed, you can group pods into sites. The sites display on the Converged tab. For more information, see the Cisco UCS Director Administration Guide.

Adding a Pod

Step 1   On the menu bar, choose **Administration** > **Physical Accounts**.

Step 2   Click the **Pods** tab.

Step 3   Click **Add**.

Step 4   In the **Add Pod** dialog box, complete the following fields:

Name	Description
Name field	A descriptive name for the pod.
Site drop-down list	Choose the site where you want to add the pod. If your environment does not include sites, you can omit this step.
Type drop-down list	Choose **Generic** for the type of pod. A generic pod does not require a specific pod license. You can add any type of physical or virtual component to a generic pod.
Description field	(Optional) A description of the pod.
Address field	The physical location of the pod. For example, this field could include the city or other internal identification used for the pod.
Hide Pod check box	Check the check box to hide the pod if you do not want it to show in the Converged Check View. You can continue to add or delete accounts from the pod. For example, you can use this check box to ensure that a pod that does not have any physical or virtual elements is not displayed in the Converged View.

Step 5   Click **Add**.

What to Do Next

Add one or more accounts to the pod.

About Cisco C880 M4 Server Accounts

Each Cisco C880 M4 account represents a single Cisco C880 M4 server that you want to have managed by Cisco UCS Director. You can add one or more Cisco C880 M4 accounts to a pod.

Cisco UCS Director performs auto-discovery of the Cisco C880 M4 account and manages all infrastructure elements in the server that are associated with the Cisco C880 M4 account.

Adding an Account for a Cisco C880 M4 Server

Step 1 On the menu bar, choose **Administration** > **Physical Accounts**.

Step 2 Click the **Physical Accounts** tab.

Step 3 Click **Add**.

Step 4 In the **Add Account** dialog box, do the following:

a) From the **Pod** drop-down list, choose the pod to which this account belongs.

b) From the **Category Type** drop-down list, choose **Computing**.

c) From the **Account Type** drop-down list, choose **Cisco C880 M4**.

d) Click **Submit**.

Step 5 In the **Add Account** dialog box, complete the following fields:

Name	Description
Account Name field	A unique name that you assign to this account.
Description field	(Optional) A description of this account.
MMB Address field	The IP address or Fully Qualified Domain Name (FQDN) of the Management Board.
MMB Username field	The username that this account will use to access the Management Board on the server. This username must be a valid account on the Management Board.
MMB Password field	The password associated with the Management Board username.
MMB Protocol drop-down list	Choose the protocol that you want to use for this account to access the Management Board. This can be **http:** or **https:**.
MMB Protocol Port Number field	The port used to access the Management Board. Use the default of 8081.
BMC Address field	The IP address or Fully Qualified Domain Name (FQDN) of the BMC.
BMC Username field	The username that this account will use to access the BMC on the server. This username must be a valid account on the BMC.
BMC Password field	The password associated with the BMC username.
SSH Port Number field	The SSH port. You can use the default port of 22 or a different port.
IPMI Username field	The username that this account will use to access the IPMI tool on the server. This username must be valid account in the Remote Server Management section of the Management Board.
IPMI Password	The password associated with the IPMI username.

Name	Description
Contact field	The email address that you can use to contact the administrator or other person responsible for this account.
Location field	The location of this account.

Step 6   Click **Submit**.

Testing the Connection to a Cisco C880 M4 Account

Step 1   On the menu bar, choose **Administration** > **Physical Accounts**.

Step 2   Click the **Physical Accounts** tab.

Step 3   Choose the account for which the connection needs to be tested.

Step 4   Click **Test Connection**.

Step 5   When the connection test has completed, click **Close**.

The connection test is successful when you receive a Connection Successful message. If the connection test fails, do the following:

1   Verify the configuration of the account, including all the credentials.

2   Verify the network connectivity between Cisco UCS Director and the server.

3   Check the log files to identify the root cause.

CHAPTER **4**

Monitoring and Reporting

This chapter contains the following sections:

- Viewing the Cisco C880 M4 Server Reports, page 11
- CloudSense Reports , page 12
- System Events and Triggers, page 13

Viewing the Cisco C880 M4 Server Reports

Reports give a view on the status of the Cisco C880 M4 Server.

Step 1 On the menu bar, choose **Physical** > **Compute**.

Step 2 In the left pane, expand the site and pod that contain the Cisco C880 M4 account, and then choose the Cisco C880 M4 account.

Step 3 Click one of the following tabs to view the status of the server and its components.

Note Cisco UCS Director displays a summary of the current status of the server and its components. Click the tabs for more details about specific components.

Name	Description
Summary tab	Overview of the MMB , BMC , system status, system boards, input/output units, disk units that are installed on the chassis of the Cisco C880 M4 sever.
Firmware Version tab	Details of the unified firmware version, firmware active bank, firmware version(bank1), firmware version(bank2), unit, and firmware.
Board Information tab	Details of the various boards on the server. This includes details such as board manufacture date, board manufacturing vendor, and serial number.
Power Control tab	The power status for the server.

Name	Description
Temperature tab	The temperature and status of units, such as the CPU, and baseboard.
Fan tab	Details and status of the fan, such as fan slot, fan monitor number, part number, status, fan speed, threshold warning, and threshold critical.
LED tab	Working status of server components, such as the system boards, input/output units, and MMB.
Power Supply tab	Details of the PSU, such as type, status, part number, and serial number.
CPU tab	Details of the CPU, such as number, status, core, max core, model, stepping, part number, and serial number.
DIMMs tab	Details of the server DIMMs, such as status, size, rank, date rate, part number, and serial number.
Boot Order tab	The current boot order.
RAID Card tab	Details of the RAID on the server, including slot number, status, vendor id, device id, physical drives count, logical drives count, serial number, and firmware version.
System Event Log tab	The System Event Log events for the server, including information about events occurring on the server.
IOU tab	Details of the input/output units (IOU) on the server, including the IOU number, part number, serial number. It has drilldown report which shows details of on board LAN, voltage, PCI express slot, and PCIeSW. **Note** The IOU onboard MAC address is captured by the BIOS and saved in the MMB firmware while the server is in the AC ON state. Your system server should be powered on after AC ON if you want to display the MAC address.

CloudSense Reports

CloudSense reports provide inventory and status information for the following server components:

- CPU

- Fan

- Power Supply

- DIMM

- RAID

- Temperature

All these reports can be viewed in a single page as a HTML or PDF. For more information about Cloudsense Reports, see the Cisco UCS Director Administration Guide.

Note A CloudSense report shows inventory reports for all accounts in a pod.

System Events and Triggers

System events and triggers are used to monitor the health of the server. For example, if the fan speed exceeds a specified value, this event triggers an email to the contact provided in the account configuration. The following table shows the objects and their parameters that you can monitor for system events and for which you can set triggers.

Objects	Parameters
Fan	Fan Speed
Temperature	Temperature Sensor
Power Consumption	Power Consumption
System Status	Power System Status OPL Status Temperature Status Fan Status MMB Status Status of System Board Status of Input/Output Unit Status of Disk Unit

Example: Creating an Email Workflow

Step 1 On the menu bar, choose **Policies** > **Orchestration**.

Step 2 Click the **Workflows** tab.

Step 3 Click **Add Workflow**.

Step 4 In the **Add Workflow Details** screen of the **Add Workflow** wizard, complete the following fields and then click **Next**.

Name	Description
Name field	A unique name for the workflow. We recommend that this name indicate the purpose of the workflow.
Description field	A description for the workflow.
Workflow Context drop-down list	Choose the context in which the workflow is used. This can be one of the following: • Any—Allows the workflow to be used in any context. • Selected VM—Allows the workflow to be executed only when a VM is selected.
Save as Compound Task check box	If checked, the workflow is defined as a compound task.
Place in New Folder check box	The folder where you want to save the workflow. If you check this check box, enter a folder name in the **Folder Name** field.
Select Folder drop-down list	Choose the folder in which you want to save the workflow. This drop-down list is only visible if you do not check the **Place in New Folder** check box.

Step 5 In the **Add User Inputs** screen of the **Add Workflow** wizard, do the following:

a) Click **Add**.

b) In the **Add User Inputs** dialog box, complete the following fields and then click **Submit**:
If you configure the workflow with the required user inputs, you can configure the workflow tasks to prompt for certain values when the workflow runs.

Name	Description
Input Label field	The label assigned to the input.
Input Description field	A description for the input.
Input Type field	The type of input category.

Name	Description
Admin Input field	Input from the administrator based on the input type. The inputs are not required to be provided by the end user who executes the workflow. You can also prevent an end user from providing certain types.
Admin Input List field	The current administrator's list of inputs. The input order can be rearranged.
Admin Input Filter field	The administrator's input filter value used to define custom inputs based on a filter (static or dynamic). For example, you can filter on aggregate, volumes, and POD.

Step 6 Click **Submit**.
If you created the workflow in a new folder, you might need to click **Refresh** to see that folder in the folder list.

Step 7 On the icon bar, click the purple drop-down list icon and choose **Workflow Designer** .

Step 8 In the **Available Tasks** pane of the Workflow Designer, expand **Cloupia Tasks** > **General Tasks**.

Step 9 Click **SendEmail** and drag and drop the task onto the Workflow Designer work area .

Step 10 In the **Task Information** screen of the **Add Task (SendEmail Profile)** wizard, do the following:

    a) Enter a task name and comment to identify the task.

    b) If you want Cisco UCS Director to automatically retry the workflow if it encounters an error, do the following:

        1 Check the **Retry Execution** check box.

        2 From the **Retry Count** drop-down list, choose the number of retry attempts .

        3 In the **Retry Frequency** field, enter a comma-separated list of values that represents the number of seconds between retries.

    c) Review the task details.

    d) Click **Next**.

Step 11 In the **User Input Mapping** screen, click **Next**.

Step 12 In the **Task Inputs** screen, do the following:

    a) Enter a valid **E-mail Address**.

    b) Enter a **Subject**.

    c) (Optional) Enter a **Description**.

    d) Click **Next**.

Step 13 In the **User Output Mapping** screen, click **Submit**.

Adding a Trigger

Before You Begin

Create a custom workflow task.

Step 1 On the menu bar, choose **Policies** > **Orchestration**.

Step 2 Choose the **Triggers** tab and then click **Add**.

Step 3 In the **Trigger** dialog box, click **Trigger Information**.

Step 4 In the **Trigger Information** dialog box, complete the following fields:

Name	Description
Trigger Name field	A unique name for the trigger. **Note** The trigger name is used in the subject line of the email notification
Description field	(Optional)A description for the trigger.
Frequency drop-down list	Choose the frequency at which you want to monitor the event for this trigger.
Trigger Type drop-down list	Choose **Stateful** to ensure that the trigger remembers the current state and only executes actions when there is a change in trigger state.

Step 5 Click **Next**.

Step 6 Click **Add(+)**.

Step 7 In the **Add Entry to Conditions** dialog box, complete the following fields:

Name	Description
Type of Object to Monitor drop-down list	Choose Cisco C880 M4.
Object drop-down list	Choose the object you want to monitor for this trigger.
Parameter drop-down list	Choose the parameter for which you want to set the trigger.
Operation drop-down list	Choose the operation that you want to include in the trigger.
Value drop-down list	Choose the value that you want to include in the trigger.

Step 8 From the **Trigger When** drop-down list, choose the condition that will invoke the trigger conditions.

- **All Conditions**—The trigger is invoked only when all conditions are satisfied.

• **Any Conditions**—The trigger is invoked when any of the given conditions is satisfied.

Step 9   Click **Next**.

Step 10   On the **Specify Workflow** screen, complete the following fields:

Name	Description
Maximum Invocation drop-down list	Choose the Maximum Invocation count that you want to use with this trigger.
Select Workflow drop-down list	Choose the workflow that you want to run automatically when the trigger state becomes Active or Clear.

Step 11   Click **Next**.

Step 12   In the **Specify Workflow Input** field, provide the inputs for the selected workflow, if any.

Step 13   Click **Submit**.

C H A P T E R **5**

Managing Cisco C880 M4 Servers

This chapter contains the following sections:

Managing Power

Step 1 On the menu bar, choose **Physical** > **Compute**.

Step 2 In the left pane, expand the site and pod that contain the Cisco C880 M4 account, and then choose the Cisco C880 M4 account.
Cisco UCS Director displays the details of the servers that are available under the Cisco C880 M4 account.

Step 3 Click the **Power Control** tab.
Cisco UCS Director displays the current power status for the server, which including the account name, description, and system power.

Step 4 Click one of the following buttons on the toolbar and then click **Submit**:

- **Power On**—Powers on the server.

- **Power OFF**—Powers off the server and shuts it down without closing any of the applications that are running.

- **Power Reset**—Resets the server.

Turning the Location LED on the Server On and Off

Step 1   On the menu bar, choose **Physical** > **Compute**.

Step 2   In the left pane, expand the site and pod that include the server and then click the Cisco C880 M4 account.
Cisco UCS Director displays the details of the server that is available under the Cisco C880 M4 account.

Step 3   Click the **LED** tab.
Cisco UCS Director displays the details of the LEDs on the server, which includes the unit, power LED, alarm LED, and location LED.

Step 4   Select the unit for which you want to turn the location LED on or off.

Step 5   Click one of the following buttons on the toolbar and then click **Submit**:

- **Location LED OFF**

- Location LED ON

Changing the Boot Order

You can change the boot order to use one of the following : DISK, FLOPPY, PXE, DIAG, SAFE, CDROM, and BIOS.

Step 1   On the menu bar, choose **Physical** > **Compute**.

Step 2   In the left pane, expand the site and pod that contain the Cisco C880 M4 account, and then choose the Cisco C880 M4 account.
Cisco UCS Director displays the details of the server and its components that are available under the Cisco C880 M4 account.

Step 3   Click the **Boot Order** tab.

Step 4   Choose **Account**.

Step 5   Click **Change Boot Order**.

Step 6   Select the boot parameter that you want to use in the boot order and click **Submit**.

What to Do Next

On receiving **Boot Order Changed Successfully** message, verify that the boot order is correct in the boot order report.

Launching the Console

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Note   You must have an active MMB web session to launch the console. If you do not have an active session, you will be prompted to login into MMB.

Before You Begin

- Enable pop-ups in your browser for Cisco UCS Director. You cannot launch the console if pop-ups are blocked

- Enable JRE 6.0.

Step 1	On the menu bar, choose **Physical** > **Compute**.
Step 2	In the left pane, expand the site and pod that contain the CiscoC880 M4 account, and then choose the Cisco C880 M4 account.
Step 3	Click the **System Event Log** tab.
Step 4	Click **Launch Console**.
Step 5	Click **Submit**.
Step 6	If the pop-up redirects you to a timeout error page, click **Go to Login Page** and provide a username and password to log in.
Step 7	After you have logged in, click **Launch Console** on the **System Event Log** tab to open the **Console Redirection** page.
Step 8	Check the **Video Redirection** check box and click **Apply**.
Step 9	After the .jnlp file is downloaded, open the file to launch the console.
Step 10	If you do not see a **Launch** option, you can open the console with the **Java Web Start Launcher** .
Step 11	Click **Run** to open a console window .