



# General Troubleshooting

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## Guidelines for Troubleshooting

When you troubleshoot issues with Cisco UCS Central or a component that it manages, follow the guidelines listed in the following table.

**Table 1: Troubleshooting Guidelines**

Guideline	Description
Check the release notes to see if the issue is a known problem.	The release notes are available at: <a href="#">Cisco UCS Central Release Notes</a> .
Take screenshots of the fault or error message dialog box, the FSM for the component, and other relevant areas.	These screenshots provide visual cues about the state of Cisco UCS Central when the problem occurred. If your computer does not have software to take screenshots, check the documentation for your operating system.

Guideline	Description
Record the steps that you took directly before the issue occurred.	If you have access to screen or keystroke recording software, repeat the steps you took and record what occurs in Cisco UCS Central.  If you do not have access to that type of software, repeat the steps you took, make detailed notes of the steps and what happens in Cisco UCS Central after each step.
Create a technical support file.	The information about the current state of Cisco UCS Central and the Cisco UCS domains is helpful to Cisco support. It frequently provides the information to identify the source of the problem.

## Technical Support Files

When you encounter an issue that requires troubleshooting, or a request for assistance to the [Cisco Technical Assistance Center](#) (Cisco Technical Assistance Center), collect as much information as possible. Cisco UCS Central outputs this information into a tech support file that you can send to TAC.

The following describes how to generate technical support log files through the HTML5 GUI and through the CLI. This guide does not support versions of Cisco UCS Central with the FLEX GUI.

### Creating a Technical Support File in the Cisco UCS Central CLI

Use the **show tech-support** command to output information about a Cisco UCS domain that you can send to Cisco Technical Assistance Center.

#### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A # <b>connect local-mgmt</b> {a   b}	Enters local management mode.
<b>Step 2</b>	UCS-A (local-mgmt) # <b>show tech-support detail</b>	Produces a detailed report (tgz file) that you can send to Cisco TAC to debug.
<b>Step 3</b>	UCS-A (local-mgmt) # <b>copy volatile: /&lt;filename&gt;.tar {scp   ftp   sftp   tftp} : user_name@IP_address   username's password: password</b>	Copies the output file to an external location.  The SCP and FTP commands require an absolute path for the target location. The path to your home directory cannot include special symbols, such as '~'.

### Creating a Tech Support File in the Cisco UCS Central GUI

The following steps describe how to generate a tech support file in the HTML GUI.

### Procedure

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- Step 1** Click on the **System Tools** icon and choose **Tech Support**.  
In v1.4, the System Tools icon is called the Operations icon.
- Step 2** From the Domain list, click a domain, or UCS Central.
- Step 3** Click **Generate Tech Support**.  
The Generate Tech Support dialog opens.
- Step 4** Select **Include System data such as policies and inventory**.
- Step 5** Click **Yes**.
- Step 6** After Cisco UCS Central produces the report, select it.
- Step 7** Click **Download** to download the report to your local system so you can email it to Cisco TAC.
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## Inventory Data Sync

When you register a Cisco UCS Manager domain to Cisco UCS Central, Cisco UCS Central performs a full inventory. After the initial inventory, Cisco UCS Central only performs a partial inventory, which consists of the delta between the previous inventory and the current one.

After an update, it's common to see an inventory out of sync. If inventory data is out of sync between Cisco UCS Manager and Cisco UCS Central, the status updates from Cisco UCS Manager do not display on Cisco UCS Central. On Cisco UCS Central, the inventory status displays as In Progress, but does not change to OK.



**Note** Acceptable latency between Cisco UCS Manager and Cisco UCS Central is less than 300ms.

Verify that the pmon state shows all of the Cisco UCS Central [DME Logs](#) processes in the CLI.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A# <b>connect local-mgmt</b>	Connects local management.
<b>Step 2</b>	UCSC(local-mgmt)# show pmon state	<b>Note</b> If your Cisco UCS domain is running Cisco UCS Manager v2.2.3 or earlier, and you are using a WAN environment with low bandwidth and high latency, inventory processing may timeout. To fix, install the latest version of Cisco UCS Manager.
<b>Step 3</b>	Alternatively, in the UI, click the Alerts icon, then click <b>Internal Services</b> .	

## Refreshing the Inventory

Manually refresh the inventory for the specific Cisco UCS domain using the Cisco UCS Central CLI.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	connect resource-mgr	Connects to the resource manager.
<b>Step 2</b>	scope domain-mgmt	Connects to domain management.
<b>Step 3</b>	show ucs-domain	Displays all registered domains and their IDs.
<b>Step 4</b>	scope ucs-domain <domain-ID>	Connects to the chosen domain.
<b>Step 5</b>	refresh-inventory	Refreshes the inventory.
<b>Step 6</b>	commit-buffer	Commits the transaction.

## Disk Space Issues

The following describes disk space issues you could encounter:

Issue	Resolution
Scale issues	If you have many domains, enhance the VM configuration (memory, storage, etc.) to at least double the recommended numbers.
Excess images and files	Ensure that you clean up your unused images and technical support files.
Log files grew unbounded	Some users experienced a problem where syslog files grew larger than expected. These files consumed as much available space as possible, triggering alerts. This also prevented signing in and other admin functions. This issue has been fixed.

## Boot Flash Full

If you enabled statistics collection with the internal statistics database, it could fill up the boot flash partition. To fix, drop the internal statistics database and disable statistics collection. Also, you could configure an external statistics database for statistics collection.



### Attention

Contact Cisco TAC if your /bootflash partition becomes full and you have stats collection enabled. Please note that the Statistics Management feature is being deprecated and will not be supported after Cisco UCS Central release 1.5.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCSC# connect stats-mgr	Disables statistics collection.

	Command or Action	Purpose
<b>Step 2</b>	sc collection-policy	
<b>Step 3</b>	/collection-policy # set collection-interval never	
<b>Step 4</b>	/collection-policy* # commit-buffer	

## Port Configuration with a Firewall

The following table lists the ports that you must configure:

Issue	Resolution
Ports open on Cisco UCS Central	<ul style="list-style-type: none"> <li>• <code>HTTPS_PORT="https"(443)</code> – Communications from Cisco UCS Central to Cisco UCS domain(s) and Cisco UCS Central GUI. Always required.</li> <li>• <code>HTTP_PORT="http"(80)</code> – Communications from Cisco UCS Central to Cisco UCS domain(s). This port is configurable, and only required for the Flash-based Cisco UCS Central UI.</li> <li>• <code>PRIVATE_PORT=(843)</code> – Cisco UCS Central communications from Flash UI to Cisco UCS Central VM. Only required for the Flash-based Cisco UCS Central UI. This is not required if using the new HTML-5 UI.</li> </ul> <p><b>Note</b> For Cisco UCS Manager domains v2.2(1b) and below, you also must open the following NFS ports:</p> <ul style="list-style-type: none"> <li>• <code>LOCKD_TCPPORT=32803</code> – Linux NFS lock</li> <li>• <code>MOUNTD_PORT=892</code> – Linux NFS mount</li> <li>• <code>RQUOTAD_PORT=875</code> – Linux remote quota server port (NFS)</li> <li>• <code>STATD_PORT=32805</code> – Linux – Used by NFS file locking service – lock recovery</li> <li>• <code>NFS_PORT="nfs"(2049)</code> – Linux NFS listening port</li> <li>• <code>RPC_PORT="sunrpc"(111)</code> – Linux RPCBIND listening port</li> </ul>
Port open on Cisco UCS Manager	<ul style="list-style-type: none"> <li>• <code>HTTPS_PORT="https"(443)</code> – Communications from Cisco UCS Central to Cisco UCS domain(s). Always required.</li> </ul>

## DNS Troubleshooting

You can configure the DNS server from the Cisco UCS Central HTML-5 UI.

- If Cisco UCS Central fails to resolve domain names, check that the DNS server is added to the `/etc/resolve.conf` file.
- Check for any errors in the `/var/log/core/svc_cor_controllerAG.log`.

## Host Firmware Package Policy Issues

Beginning with Cisco UCS Central release 1.4, you can exclude components from your host firmware package policy. When excluding components, be aware of the following:

- The global-default host firmware package policy includes all components. If you create a new custom host firmware package policy, it automatically excludes the local disk component.
- Host firmware package policies created in Cisco UCS Central v1.3, or previous versions, do not support excluding components. These policies do not change when you upgrade to Cisco UCS Central v1.4.
- If you create your own custom host firmware package policy with excluded components, you cannot include it in a service profile associated with a server running a Cisco UCS Manager version prior to 2.2.7. If you do, the following error displays during service profile association:

```
ucs domain does not have the matching server capabilities for this service-profile
```

You can either remove all excluded components in the host firmware package policy, or upgrade your version of Cisco UCS Manager to the latest version.

## Private VLAN Issues

The following issues could cause PVLAN configuration to fail:

- VLAN referenced by a global service profile, port, or port channel that does not exist or has been deleted.
- VLAN referenced by a port or port channel that is not created in the appropriate cloud.
- VLAN referenced by a global service profile, port, or port channel that is not created under the appropriate domain groups.
- VLAN ID/Name is overlapping with other VLANs that exist locally on a Cisco UCS domain.
- More than one secondary VLAN is referring to the same primary VLAN.
- The secondary VLAN referenced by the global service profile, port, or port channel does not refer to a valid primary VLAN.
- The secondary VLAN referenced by global service profile, port, or port channel refers to a primary VLAN that was deleted.

## Fixing Private VLAN Issues

To fix the PVLAN configuration issues:

### Procedure

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- Step 1** Check the configuration and FSM status of the global service profiles, ports, or port channels.
  - Step 2** Analyze the domain and system faults for any related failures.
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## Smart Call Home Issues

The following table lists issues related to Smart Call Home:

Issues	Resolution
Configuration changes or issues	When you change a configuration, or enable or disable call home, you can check the status on the <b>System Configuration &gt; Smart Call Home &gt; Configuration Status</b> . Errors that are internally identified, such as "invalid certificate in the transport gateway" display here.
Registration email not received	When you enable Smart Call Home for the first time, you should receive an email confirming or requesting registration within five minutes. If you do not receive the email, create another inventory from <b>System Configuration &gt; Smart Call Home &gt; Basic &gt; Operations &gt; Send System Inventory Now</b> .
Viewing logs	<ul style="list-style-type: none"> <li>Smart Call Home logs are located at <code>/var/log/gch</code> and <code>/var/log/resource-mgr</code>.</li> <li>Individual Data Management Engine (DME) logs specific call home events that are raised within the DME. For example, the core DME raises a process core dumped event. The information specific to the event is located in <code>/var/log/core/svc_core_dme.log</code>.</li> <li>Audit logs and tech support files capture specific configuration changes made in the Smart Call Home section.</li> </ul>

## Smart Software Licensing Issues

The first five Cisco UCS Central domains are currently licensed at no charge. For more domains, there is a charge. Support for the initial, or additional domains, is available as a paid option with the licenses.



**Note** There is a 120-day grace period after the registration of the first domain. You can register any number of domains during this grace period. After the grace period expires, a license is required to prevent licensing fault alarms.

The following table lists issues related to Smart Software licensing:

Issues	Resolution
Registration failed due to network issue	Review the network connectivity to the Cisco Smart Software Licensing portal.
Deregistration failed due to network issue	Manually remove the product instance from the Cisco Smart Software Licensing portal.

Issues	Resolution
Smart Software Licensing tech support commands	<pre>(resource-mgr) /smart-license # generate techsupport (resource-mgr) /smart-license* # commit-buffer</pre>
Smart Software Licensing show commands	<pre>(policy-mgr) /org/device-profile/smart-license # show smart-license (resource-mgr) /smart-license # show license usage (resource-mgr) /smart-license # show license summary (resource-mgr) /smart-license # show license status (resource-mgr) /smart-license # show license udi (resource-mgr) /smart-license # show license techsupport (resource-mgr) /smart-license # show license all</pre>
Smart Software Licensing logs	<pre>/var/log/resource-mgr/svc_sam_cloudAG.log /var/log/resource-mgr/svc_rsrcMgr_dme.log</pre>

## DME Logs

The following table lists the Data Management Engine (DME) logs used in Cisco UCS Central:

Issue	Resolution
Mgmt-controller (core) DME	<p>Applies VM settings like IP address, DNS, NTP.</p> <ul style="list-style-type: none"> <li>• Located in /var/log/core</li> <li>• svc_core_dme.log – DME log</li> <li>• svc_core_controllerAG.log – runs scripts to configure VM</li> <li>• svc_core_secAG.log – authentication errors (local/ldap)</li> </ul>
Policy-mgr DME	<p>Policy management, ID Pool management.</p> <ul style="list-style-type: none"> <li>• Located in /var/log/policy-mgr</li> <li>• svc_pol_dme.log – DME log</li> <li>• svc_sam_pkiAG.log – certificate maintenance.</li> </ul>
Resource-mgr DME	<p>Service profiles, VLANS/VSANS, Inventory.</p> <ul style="list-style-type: none"> <li>• Located in /var/log/resource-mgr</li> <li>• svc_rsrcMgr_dme.log – DME log</li> </ul>
Identifier-mgr DME	<p>Management for IDs.</p> <ul style="list-style-type: none"> <li>• Located in /var/log/identifier-mgr</li> <li>• svc_idm_dme.log – DME log</li> </ul>



Issue	Resolution
Service Registry DME	Monitors DME status, registered domain status. <ul style="list-style-type: none"> <li>• Located in /var/log/service-reg</li> <li>• svc_reg_dme.log – DME log</li> </ul>
Operation-mgr DME	Backup, and firmware management. <ul style="list-style-type: none"> <li>• Located in /var/log/operation-mgr</li> <li>• svc_ops_dme.log – DME log</li> <li>• svc_ops_imgMgmtAG.log - image management</li> </ul>
Stats-mgr DME	Statistics collection from Cisco UCS domains. <ul style="list-style-type: none"> <li>• Located in /var/log/stats-mgr</li> <li>• svc_statsMgr_dme.log – DME log</li> </ul>
Central-mgr DME	Single entry point for XML API. <ul style="list-style-type: none"> <li>• Located in /var/log/central-mgr</li> <li>• svc_centralMgr_dme.log – DME log</li> </ul>

## Cisco UCS Central Processes

The following table lists the Cisco UCS Central processes:

Service Name	Description
core-svc_cor_secAG	Implements authentication related feature, such as local auth and remote auth
identifier-mgr-svc_idm_dme	Manages ID pools and allocates unique IDs in the system
core-solr.sh	SOLR process
resource-mgr-svc_sam_snmpTrapAG	Sends SNMP traps from resource-mgr
central-mgr-svc_centralMgr_dme	Cisco UCS Central NBAPI provider forwards the NBAPI to a specific DME
policy-mgr-svc_pol_dme	Manages Cisco UCS Central policies
identifier-mgr-svc_sam_snmpTrapAG	Sends SNMP traps from identifier-mgr
core-svc_cor_snmpTrapAG	Sends SNMP traps from mgmt-controller
operation-mgr-svc_ops_dme	Operations manager DME

Service Name	Description
policy-mgr-svc_sam_pkiAG	Provides PKI related service for policy-mgr DME
core-httpd.sh	Starts httpd process
gch-call_home	Cisco GCH call home process, which forwards the callhome/smartlicense message to Cisco Cloud Smartlicense Manager
service-reg-svc_sam_snmpTrapAG	Sends SNMP trap from service-reg
core-svc_cor_sessionmgrAG	Session auditing for Cisco UCS Central HA implementation
core-svc_cor_dme	Manages the configuration for Cisco UCS Central VM (mgmt-control DME)
resource-mgr-svc_sam_cloudAG	GCH callhome, smartlicense application gateway
stats-mgr-svc_sam_snmpTrapAG	Sends SNMP trap from stats-mgr
service-reg-svc_reg_dme	Implements registration service for different DME and UCSM
operation-mgr-svc_ops_imgMgmtAG	Image management application gateway for operations manager
resource-mgr-svc_rsrcMgr_dme	Resource manager DME where Cisco UCS Manager inventory is kept and which manages GSP
core-tomcat.sh	Controlling script for tomcat process
service-reg-svc_sam_controller	AG to implement Cisco UCS Central HA service
operation-mgr-svc_sam_snmpTrapAG	Sends SNMP trap from operation manager
sam_cores_mon.sh	Script to monitor and manage Cisco UCS Central coredump file
core-svc_cor_controllerAG	AG to configure Cisco UCS Central VM policies
service-reg-svc_sam_licenseAG	License AG for domain base license.
core-sam_nfs_mon.sh	Script to monitor NFS
gch-xosdsd	Infrastructure process for implementing GCH smartlicense feature
policy-mgr-svc_sam_snmpTrapAG	Sends SNMP Trap from policy-mgr
stats-mgr-svc_statsMgr_dme	Statistics manager which collects statistics from different Cisco UCS Manager domains and generates the statistics report