

Troubleshoot Full Common Partition in CUCM

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Introduction

This document describes how to troubleshoot full common partition in a Unified Communications Manager (CUCM) server and how to clean-up storage.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Real-Time Monitoring Tool (RTMT)
- CUCM GUI interface and CLI sessions

Components Used

The information in this document is based on these software and hardware versions:

- CUCM version 12.5.1.16900-48

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

CUCM has three main disk partitions:

- Disk/active: contains the current CUCM version and its configuration.
- Disk/inactive: contains the previous version in case you need to switch after an upgrade for any reason.
- Disk/logging: this is also called common partition which holds all the enabled log/trace files and also used to store temporarily the upgrade ISO file during upgrade.

Common partition clean-up is required in two scenarios:

1. Log rotate is broken and logs do not get deleted leading to the logging (/common) partition to grow without bound. This can cause performance issues as the inability to logging affects the execution of different commands.
2. CUCM upgrade requires more space under common partition. [Pre-Upgrade Readiness COP File](#) validates different aspects of your cluster before the upgrade is performed, one of the modules is the Disk Space Check as CUCM upgrade requires at least 25GB of free space in the common partition.

Validate Common Partition Space

The useful commands to start troubleshooting Common Partition space issue are:

- show status
- show tech runtime disk
- show hardware
- show diskusage common sort
- utils core active list
- utils core inactive list

In order to validate disk space, use the **show status** command. The disk usage is displayed at the end of the command.

```
<#root>
```

```
admin:
```

```
show status
```

```
Host Name       : xxxxxxxx-cucm1
Date            : Fri Sep 29, 2023 17:20:40
Time Zone       : Central Daylight Time (America/Mexico_City)
Locale          : en_US.UTF-8
Product Ver     : 12.5.1.16900-48
Unified OS Version : 7.0.0.0-4
```

```
Uptime:
```

```
17:20:42 up 141 days,  1:12,  1 user,  load average: 2.22, 0.98, 0.82
```

```
CPU Idle:   85.86%  System:   07.58%   User:    05.56%
IOWAIT:    00.51%   IRQ:     00.00%   Soft:    00.51%
```

```
Memory Total: 7990056K
Free:        130848K
```

```

Used:      3963172K
Cached:    3232656K
Shared:    484376K
Buffers:   3896036K

```

	Total	Free	Used	
Disk/active	19805412K	6240536K	13345948K (69%)	
Disk/inactive	19805412K	6601928K	12984556K (67%)	
Disk/logging	69234984K	5315340K	60379628K (92%)	<--- Used common partition space

Another command to validate storage is **show tech runtime disk**, with this command, you can validate the Filesystem for each partition. The Disk/active partition is mounted to /, the Disk/inactive partition is mounted to /partB, and the Disk/logging partition is mounted to /common.

```
<#root>
```

```
admin:
```

```
show tech runtime disk
```

```
----- show platform runtime -----
```

```
The disk usage:
```

Filesystem	Size	Used	Avail	Use%	Mounted on	
devtmpfs	3.8G	0	3.8G	0%	/dev	
tmpfs	3.9G	85M	3.8G	3%	/dev/shm	
tmpfs	3.9G	402M	3.5G	11%	/run	
tmpfs	3.9G	0	3.9G	0%	/sys/fs/cgroup	
/dev/sda2	19G	13G	6.0G	69%	/	<--- Active partition
/dev/sda1	19G	13G	6.3G	67%	/partB	<--- Inactive partition
/dev/sda3	240M	9.5M	214M	5%	/grub	
/dev/sda6	67G	58G	5.1G	92%	/common	<--- Logging partition
none	128M	0	128M	0%	/var/log/ramfs/cm/trace/ccm/sdi	
none	128M	1.6M	127M	2%	/var/log/ramfs/cm/trace/ccm/sdl	

none	128M	32K	128M	1%	/var/log/ramfs/cm/trace/ccm/calllogs
none	128M	0	128M	0%	/var/log/ramfs/cm/trace/ccm/dntrace
none	128M	1.4M	127M	2%	/var/log/ramfs/cm/trace/lbm/sdl
none	128M	0	128M	0%	/var/log/ramfs/cm/trace/cti/sdi
none	128M	556K	128M	1%	/var/log/ramfs/cm/trace/cti/sdl
tmpfs	781M	0	781M	0%	/run/user/504
tmpfs	781M	0	781M	0%	/run/user/1000
tmpfs	781M	0	781M	0%	/run/user/0

Common Partition Clean-Up Methods



Caution: The deleted files cannot be restored without performing a DRS restore of the entire cluster. Ensure that you understand the impact of any deleted file. Cisco recommends that you take a backup before deleting any file.

Validate Virtualization Storage Requirements

Your CUCM implementation must be in compliance with disk virtualization requirements according to your version, refer to [Virtualization for CUCM Guide](#). Use **show hardware** command to verify the storage on your virtual machine.

```
<#root>
```

```
admin:
```

```
show hardware
```

```

HW Platform      : VMware Virtual Machine
Processors       : 2
Type             : Intel(R) Xeon(R) CPU E5-2699A v4 @ 2.40GHz
CPU Speed        : 2400

```

Memory : 8192 MBytes
Object ID : 1.3.6.1.4.1.9.1.1348
OS Version : UCOS 7.0.0.0-4.i386
Serial Number : VMware-42 16 9b c5 f6 08 da f9-36 d7 72 7c 01 41 52 62

RAID Version :
No RAID controller information is available

BIOS Information :
PhoenixTechnologiesLTD 6.00 11/12/2020

RAID Details :
No RAID information is available

Physical device information

Number of Disks : 1 <--- # of vdisks
Hard Disk #1
Size (in GB) : 110 <--- disk size

Partition Details :

Disk /dev/sda: 14359 cylinders, 255 heads, 63 sectors/track
Units: sectors of 512 bytes, counting from 0

Device	Boot	Start	End	#sectors	Id	System
/dev/sda1	*	2048	40511487	40509440	83	Linux
/dev/sda2		40511488	81020927	40509440	83	Linux
/dev/sda3		81020928	81545215	524288	83	Linux
/dev/sda4		81545216	230686719	149141504	5	Extended
/dev/sda5		81547264	89739263	8192000	82	Linux swap / Solaris
/dev/sda6		89741312	230686719	140945408	83	Linux



Note: Adding vDisk is not supported as it would require re-partitioning by the application. If the storage configuration is not aligned with the requirements, you must rebuild the VM with the correct OVA template.

Log Partition Monitoring Tool

Log Partition Monitoring Tool (LPM) uses configured thresholds to monitor the disk usage of the log partition on a server every 5 minutes. There are two alerts you can configure on RTMT to modify this thresholds:

1. LogPartitionLowWaterMarkExceeded (% disk space)—When the disk usage is higher than the percentage that you specify, LPM sends out an alarm message to syslog and an alert to RTMT Alert central. To save the log files and regain disk space, you can use trace and log central option in RTMT.
2. LogPartitionHighWaterMarkExceeded (% disk space)—When the disk usage is higher than the percentage that you specify, LPM sends an alarm message to syslog and an alert to RTMT Alert central. When this threshold value is reach the older log files are purged, and this creates additional disk space in the logging partition.

To purge files, please refer to [Adjust WaterMark in RTMT of Call Manager Procedure Guide](#).

Execute Free Space COP File

If common partition space is not enough after adjusting High/Low WaterMark values, proceed to install the latest Cisco Free Common Space COP file.



Warning: You must install the patch during a maintenance window because the installation during normal business hours temporarily impacts the system performance. Ensure that you install the patch when there is no other CLI or GUI activity on the system because the patch terminates all CLI and GUI sessions and restarts the Tomcat service.

1. Download latest Cisco Free Common Space COP file from [Software Download](#). Review [ReadMe](#) file to understand the impact of running this COP file.
2. In order to install COP file, navigate to **Cisco Unified OS Administration > Software Upgrades > Install/Upgrade**, and validate software location settings and click **Next**.

Software Installation/Upgrade

 Cancel
  Next

Status

 Before upgrading the cluster Cisco recommends installing the latest Upgrade Readiness COP file. Refer to the Upgrade Guide on cisco.com for details.

 Status: Ready

 Below are the configurations used for the upgrade of current node. To review/modify the configuration, navigate to Software Upgrades -> Cluster Software Location on publisher.

Software Location

Source*

Directory*

Server*

User Name*

User Password*

Transfer Protocol*

SMTP Server

Email Destination

Upgrade Options

☒ continue with upgrade after download

☐ switch-version server after upgrade(valid only for ISO)

 *- indicates required item.

Install/Upgrade Software Location Screen

3. Select **free common space COP file** and click **Next**.


Cisco Unified Operating System Administration
 For Cisco Unified Communications Solutions

Show ▾ Settings ▾ Security ▾ Software Upgrades ▾ Services ▾ Help ▾

Software Installation/Upgrade

 Cancel
  Next

Status

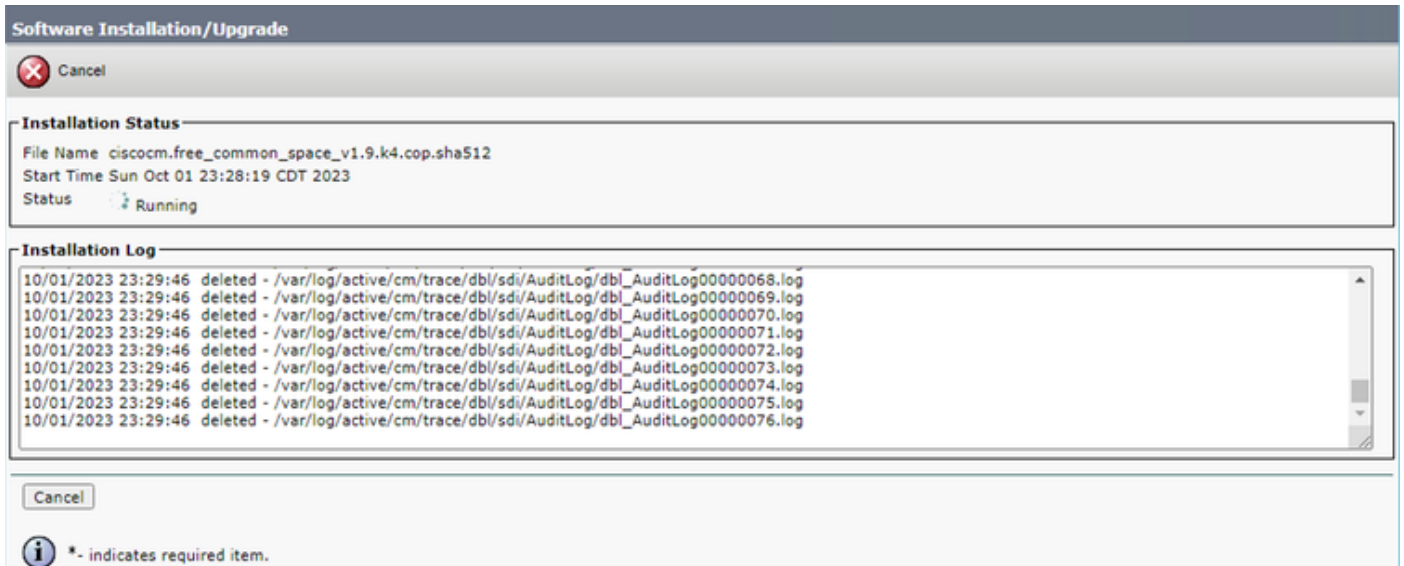
 Status: Ready

Software Location

Options/Upgrades*

Software File Selection Screen

4. COP file starts execution and frees common partition space.



COP File Installation in Progress Screen

Delete Logs via CLI

When logging partition is full (100%) COP installation is going to fail. For this scenario, it is possible to delete logs manually from CLI. Run the **show diskusage common sort** command to identify huge files that are be consuming a lot of space.

<#root>

admin:

show diskusage common sort

This command can take significantly long time,
 and can also effect the system wide IOWAIT on your system.
 Continue (y/n)?y

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
/dev/sda6	69234984	60388736	5306232	92%	/common
60305892		/common/			
60239612		/common/log			
37020784		/common/log/taos-log-b			
23209092		/common/log/taos-log-a			
13585228		/common/log/taos-log-b/cm			
9506060		/common/log/taos-log-b/car_db			
9506016		/common/log/taos-log-a/car_db			
9379480		/common/log/taos-log-b/cm/trace			
8764376		/common/log/taos-log-a/cm			
6222036		/common/log/taos-log-b/car_db/cardbospace			
6222004		/common/log/taos-log-a/car_db/cardbospace			
5998244		/common/log/taos-log-b/tomcat			
5281404		/common/log/taos-log-a/cm/trace			
4458320		/common/log/taos-log-b/tomcat/logs			
4159960		/common/log/taos-log-b/core			
4159952		/common/log/taos-log-b/core/core.jvm.core			
2923152		/common/log/taos-log-b/cm/trace/dbl			
2921840		/common/log/taos-log-b/cm/trace/dbl/sdi			
2002008		/common/log/taos-log-b/car_db/cartempdb			
2002004		/common/log/taos-log-a/car_db/cartempdb			
1935008		/common/log/taos-log-b/cm/bin			

```
1932000 /common/log/taos-log-a/cm/bin
1928508 /common/log/taos-log-a/cm/trace/ccm
1928424 /common/log/taos-log-a/cm/trace/ccm/sdl
1806628 /common/log/taos-log-b/cm/tftpdata
```

Delete cm/trace Logs

These are save commands to delete the log files from cm/trace path, run one at a time:

- file delete activelog cm/trace/ccm/sdl/* noconfirm
- file delete activelog cm/trace/cti/sdl/* noconfirm
- file delete activelog cm/trace/*/*/*/* noconfirm
- file delete activelog cm/trace/*/*/* noconfirm
- file delete activelog cm/trace/*/* noconfirm
- file delete activelog cm/trace/* noconfirm
- file delete inactivelog cm/trace/*/*/*/* noconfirm
- file delete inactivelog cm/trace/*/*/*/* noconfirm
- file delete inactivelog cm/trace/*/*/* noconfirm
- file delete inactivelog cm/trace/* noconfirm
- file delete activelog cm/log/ris/csv/*
- file delete activelog tomcat/logs/ccmservice/log4j/*
- file delete activelog /platform/snmp/*/*

Delete Core Dumps

Core dumps usually use a lot of space in disk. Identify them using **utils core active list** and **utils core**

inactive list commands.

<#root>

admin:

utils core active list

Size	Date	Core File Name
=====		
	2023-03-02 22:03:11	core.jvm.core

admin:

admin:

utils core inactive list

Size	Date	Core File Name
=====		
292616 KB	2022-02-20 00:02:37	core.62556.6.ccm.1645336926

According to the partition, delete Core dumps with **file delete activelog core/filename** or **file delete inactivelog core/filename** and confirm no more Cores are listed.

<#root>

admin:

file delete activelog core/core.jvm.core

Delete the File core/core.jvm.core?

Enter "y" followed by return to continue: y

files: found = 1, deleted = 1

admin:

admin:

file delete inactivelog core/core.62556.6.ccm.1645336926

Delete the File core/core.62556.6.ccm.1645336926?

Enter "y" followed by return to continue: y

files: found = 1, deleted = 1

admin:

admin:

utils core active list

No core files found

admin:

utils core inactive list

No core files found

Modify Call Detail Records (CDR) Low/High Watermark Values

The File Manager component of the CDR Repository Manager runs hourly. When the File Manager runs, it deletes files with dates outside the configured preservation duration. It also checks whether the disk usage has exceeded the high water mark. If so, the system deletes the processed CDR files until the low water mark is reached, starting with the oldest files.

1. Navigate to **Cisco Unified Serviceability > Tools > CDR Management** and click the **first value** under **General Parameters** section.

Cisco Unified Serviceability
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Navigation: Cisco Unified Serviceability Go

admin About Logout

Alarm Trace Tools Snmp CallHome Help

CDR Management

+ Add new X Delete Selected

General Parameters

Disk Allocation (MB)	High Water Mark (%)	Low Water Mark (%)	CDR / CMR Files Preservation Duration (Days)	Disable CDR/CMR Files Deletion Based on HWM	CDR Repository Manager Host Name	CDR Repository Manager Host Address
3000	80	40	30	☐	cucm1.	10.

Click on any of the above parameters to update the General Parameters

Billing Application Server Parameters

Server Number	Host Name / IP Address*	User Name*	Protocol*	Directory Path*	Resend on Failure	Generate New Key
---------------	-------------------------	------------	-----------	-----------------	-------------------	------------------

Add new Delete Selected

Click on the Add New button to add a new Billing Application Server

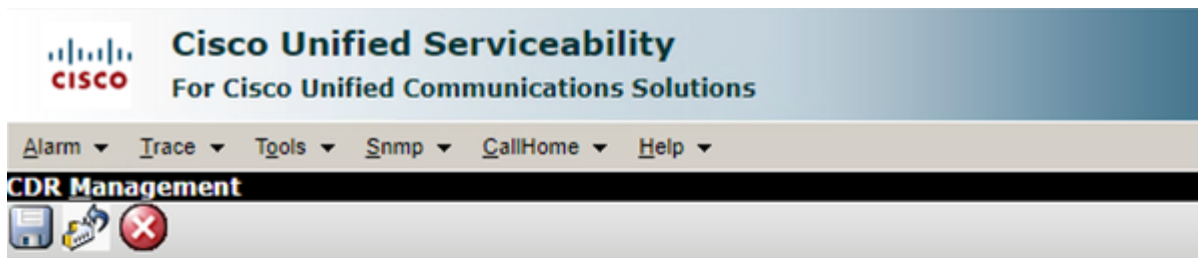
Click on the corresponding Server Name to Update the Billing Application Server details

Select corresponding Checkbox and click on Delete Selected button to Delete Billing Application Server details. For the SFTP Billing server, the Authentication keys will be deleted.

Click on the Reset Button to Generate new Keys and reset the connection to the SFTP server.

CDR Management Screen

2. Modify **High Water Mark (%)** and **Low Water Mark (%)**.



General Parameters

Disk Allocation (MB)	3000 ▼
High Water Mark (%)	80 ▼
Low Water Mark (%)	40 ▼
CDR / CMR Files Preservation Duration (Days)	30 ▼
Disable CDR/CMR Files Deletion Based on HWM	☐

Update Set Default Cancel

CDR Management Modify General Parameters Screen

Purge CDR Analysis and Reporting (CAR) Database

If CAR Database is using a lot of space, you can perform the purge of the database and release logging space. To do this:

1. Access to CAR web page, navigate to **Cisco Unified Serviceability > Tools > CDR Analysis and Reporting**.
2. Disable loader, navigate to **System > Scheduler > CDR Load**, check the **Disable Loader** check box and click the **Update**.

Cisco Unified CM CDR Analysis and Reporting
For Cisco Unified Communications Solutions

Navigation **Cisco Unified CM Administration** **GO**
Logged in | admin

User Reports System Reports Device Reports CDR System Report Config Help Logout

CDR Load

☒ Disable Loader

☒ Continuous Loading 24/7

☒ Load CDR only

Load CDR & CMR

Time* 00 Hr 00 Min

Loading interval* Every 24 hours

Duration* 30 Min

Time to start loading of CDRs & CMRs

Loading interval

Duration of a loading cycle

Uninhibited Loading

From* 00 Hr 00 Min

To* 05 Hr 00 Min

Time range for uninhibited loading of CDRs & CMRs

Status: Ready

Note: Changes made, will take effect at midnight. Restart the Cisco CDR Analysis and Reporting Scheduler service, for the changes to take effect immediately. If defaults are restored or Continuous Loading 24/7 is updated, the service will be automatically restarted and changes will take effect immediately.

Update Restore Defaults

* indicates required item

Disable Loader Screen

- For the changes to take effect, navigate to **Cisco Unified Serviceability > Tools > Control Center - Network Services > Cisco CAR Scheduler** and restart service.
- In order to purge CAR DB navigate to **System > Database > Manual Purge**, click **Table Information** to validate the oldest records for each type of table.

Table Information				
Database Name	Table Name	Total No. of Records	Latest Record	Oldest Record
CAR	Tbl_Billing_Data	1	17-08-2023	17 Aug 2023
CAR	Tbl_Billing_Error	9	17 Aug 2023	31 Jul 2023
CAR	Tbl_Purge_History	2	01 Oct 2023 01:00:10	31 Jul 2023 17:01:44

Close Help

CAR Table Information Screen

- Click **Close**, and select the **date range** to purge files of the selected table.

Cisco Unified CM CDR Analysis and Reporting
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Navigation: Cisco Unified CM Administration GO
Logged in | admin

User Reports System Reports Device Reports CDR System Report Config Help Logout

Manual Database Purge

Select Database* CAR

Select Table* Tbl_Billing_Data Table Information

Delete Records*

☐ Older than Oct 1 2023

☒ Between May 1 2023 and Sep 1 2023

Purge

Status: Ready
Warning: Please disable the loader before starting the purging process.
* indicates required item

Reload All Call Detail Records

Manual Database Purge Screen

Deleted Unused Phone Firmware Files

For upgrade scenarios, if there is not enough space in the common partition, delete the old/unused firmware from TFTP. To do this:

1. Navigate to **Cisco Unified OS Administration > Software Upgrades > Device Load Management**.
2. Apply a filter **Find Device Loads where > Status > is exactly > Not In Use > Find**.
3. Delete all the **device loads** with the status **Not In Use**.

Cisco Unified Operating System Administration
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Navigation: Cisco Unified OS Administration GO
admin | About | Logout

Show ▾ Settings ▾ Security ▾ Software Upgrades ▾ Services ▾ Help ▾

Device Load Management

Select All Clear All Delete Selected Loads

This page allows deletion of selected unused device loads on this server for most endpoint models. Unused device loads must be deleted separately for each server in the cluster.

Status

i 1 records found

Device Loads (1 - 1 of 1) Rows per Page 50

Find Device Loads where Status is exactly Not in Use Find Clear Filter + =

☐	Load Name ^	Status	Date
☒	ATA191.12-0-1SR2-3.loads	Not In Use	25/07/2019

Select All Clear All Delete Selected Loads

Troubleshooting

If further help is needed, please open a case with Cisco TAC and gather these commands:

- show version active
- show network cluster
- show status
- show tech runtime disk
- show hardware
- show diskusage common sort

Related information

- [Upgrade Readiness Checks COP File for CUCM and IMPS](#)
- [Adjust WaterMark in RTMT of Call Manager Procedure](#)
- [Cisco Unified Real-Time Monitoring Tool Administration Guide](#)
- [Cisco Unified CDR Analysis and Reporting Administration Guide](#)
- [Call Detail Records Administration Guide](#)
- [Cisco Technical Support & Downloads](#)