Troubleshoot Full Common Partition in CUCM

Contents

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

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.

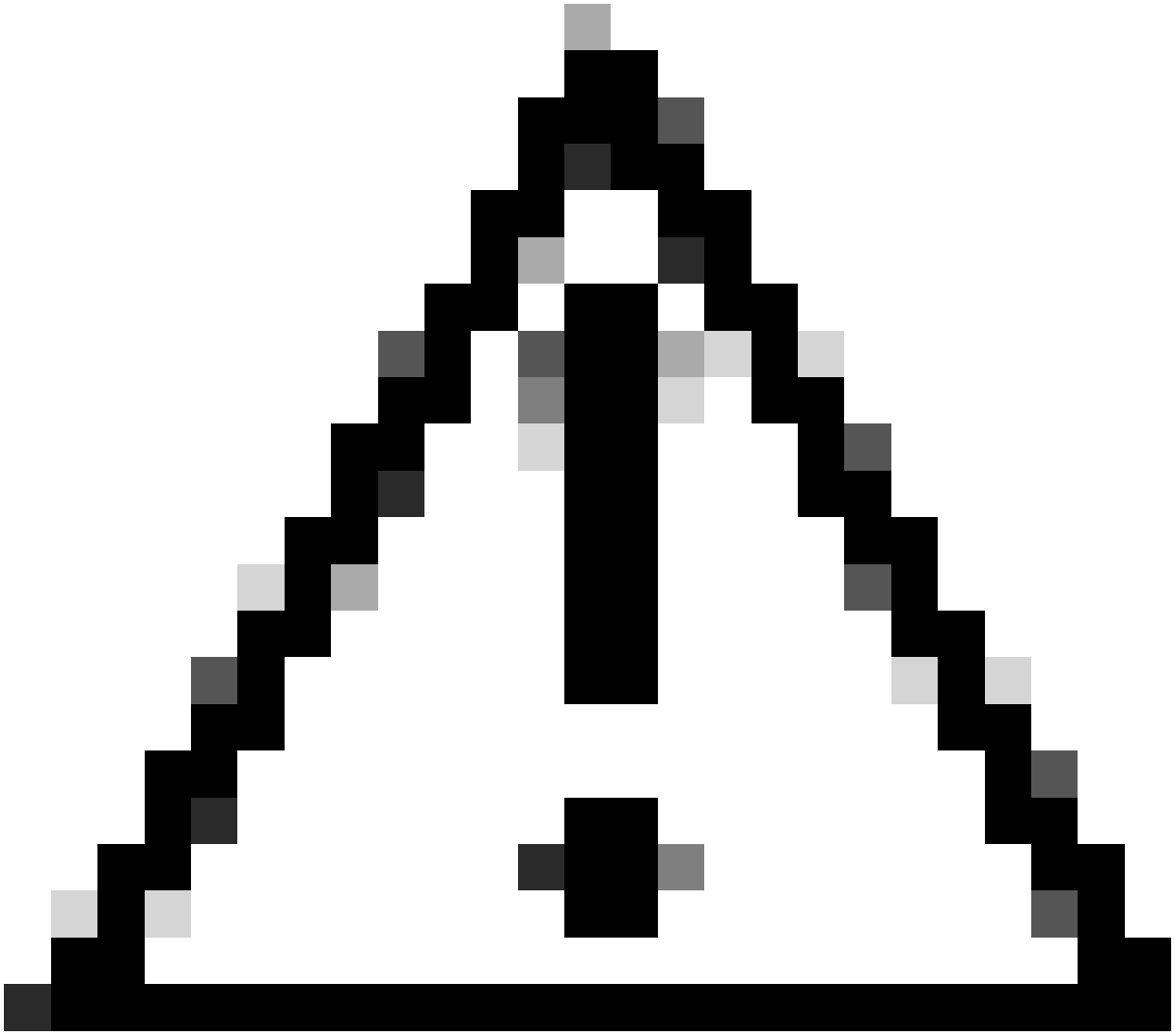
<#root>

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.

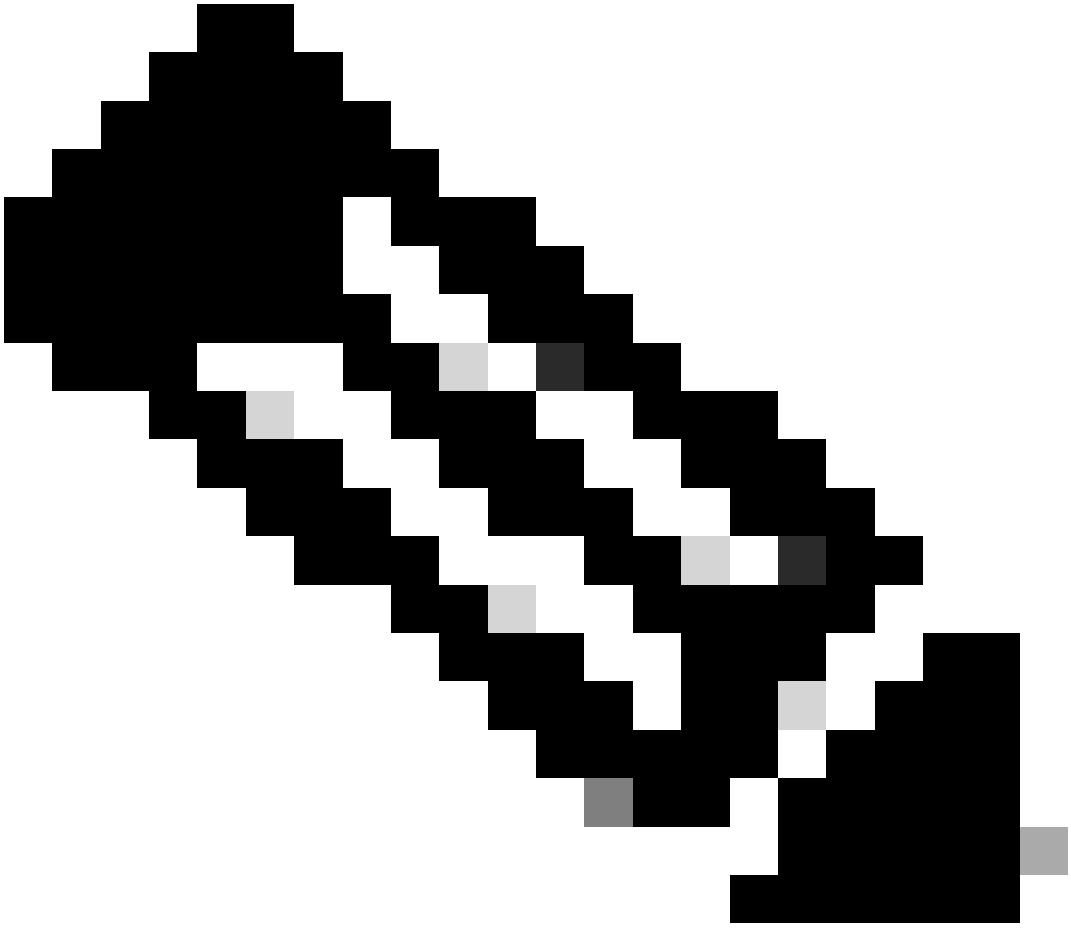
<#root>

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

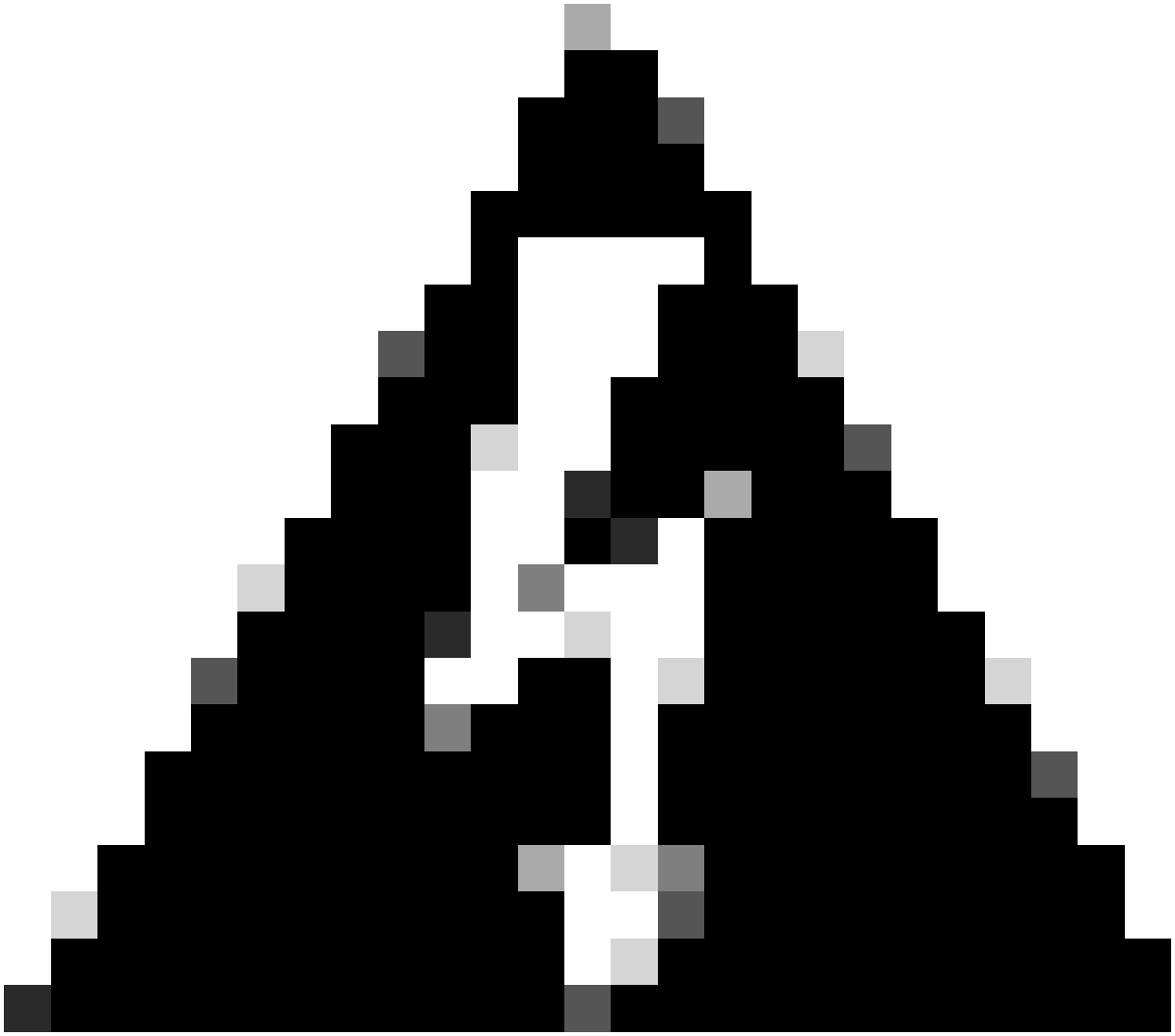
Log Partition Monitoring Tool (LPM) uses configured thresholds to monitor the disk usage of the log partition on a server every 5 minutes. There are two alerts you can configure on RTMT to modify this thresholds:

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

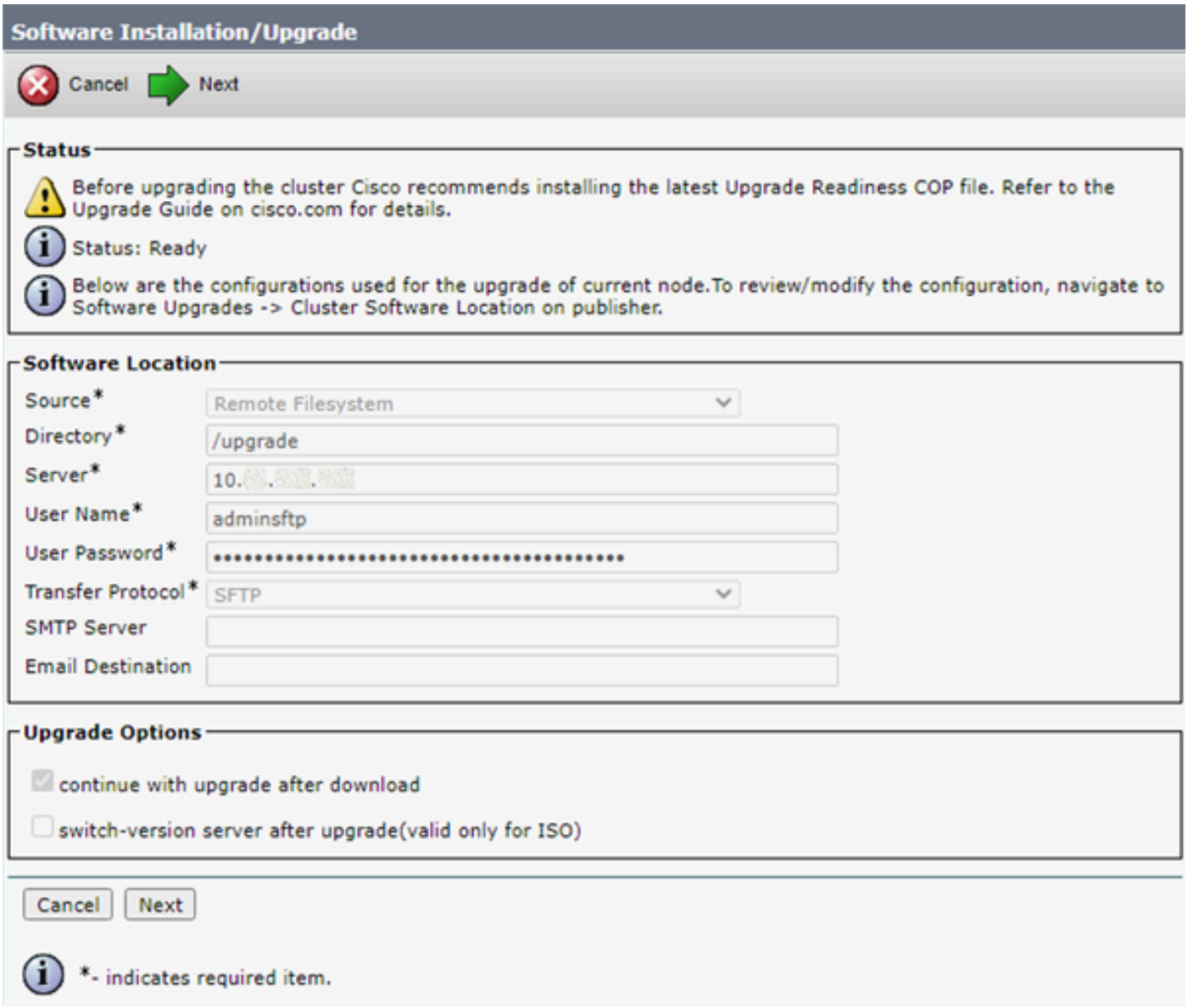
If common partition space is not enough after adjusting High/Low WaterMark values, proceed to install the latest Cisco Free Common Space COP file.



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.

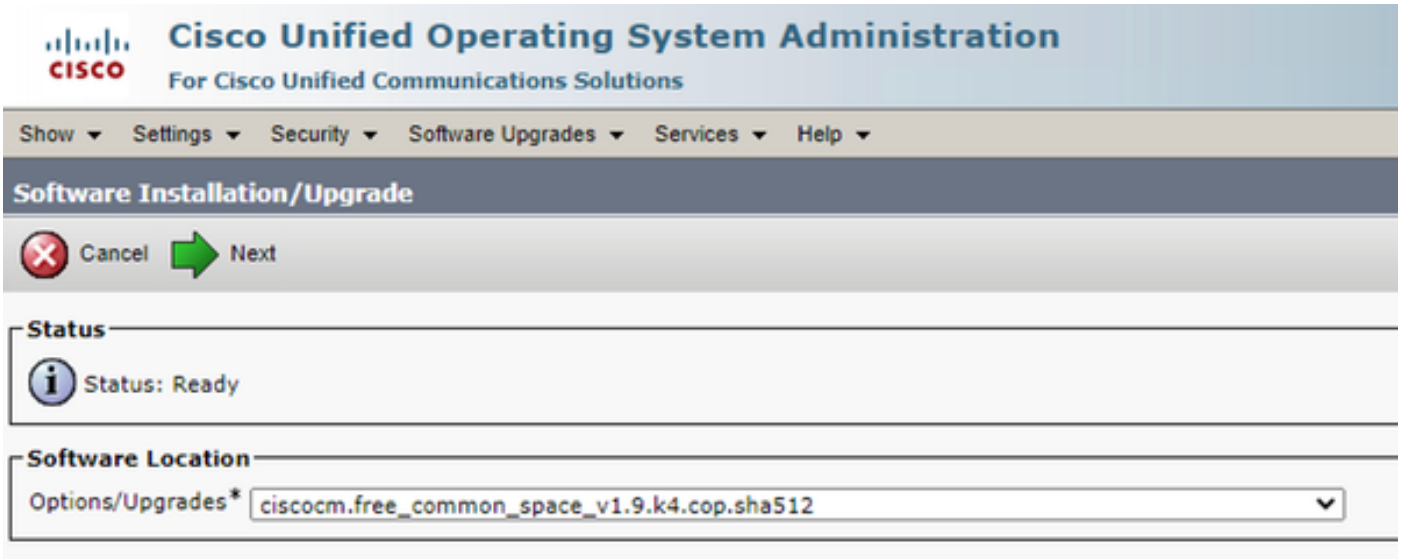
---

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**.



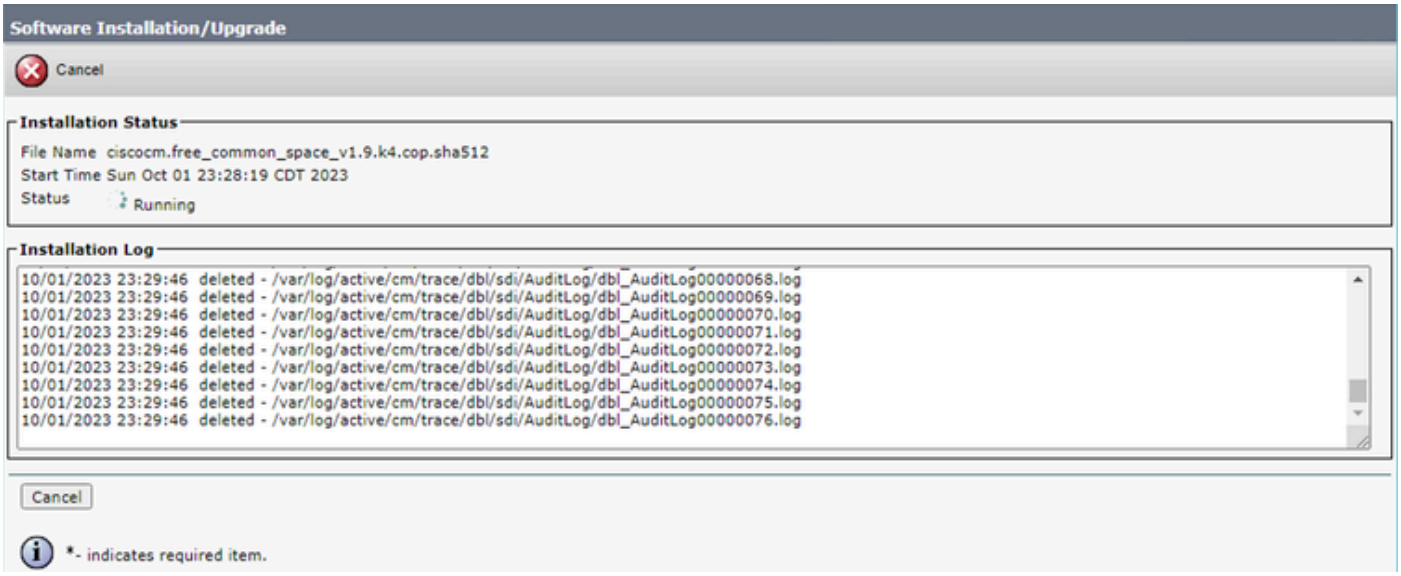
Install/Upgrade Software Location Screen

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



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/cardbspace
6222004 /common/log/taos-log-a/car_db/cardbspace
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/cartempdbs
```

```
2002004 /common/log/taos-log-a/car_db/cartempdbs
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:
```

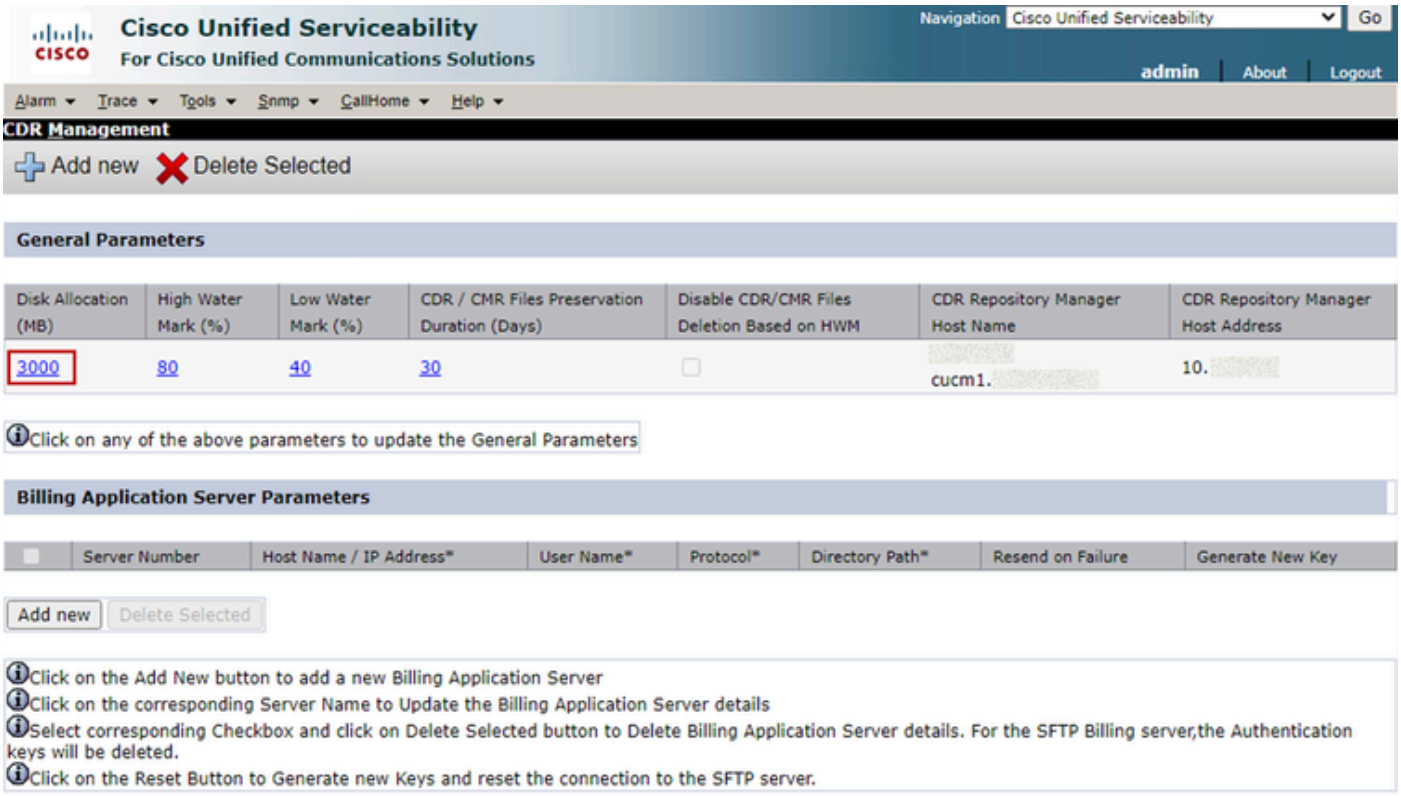
```
utils core inactive list
```

```
No core files found
```

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

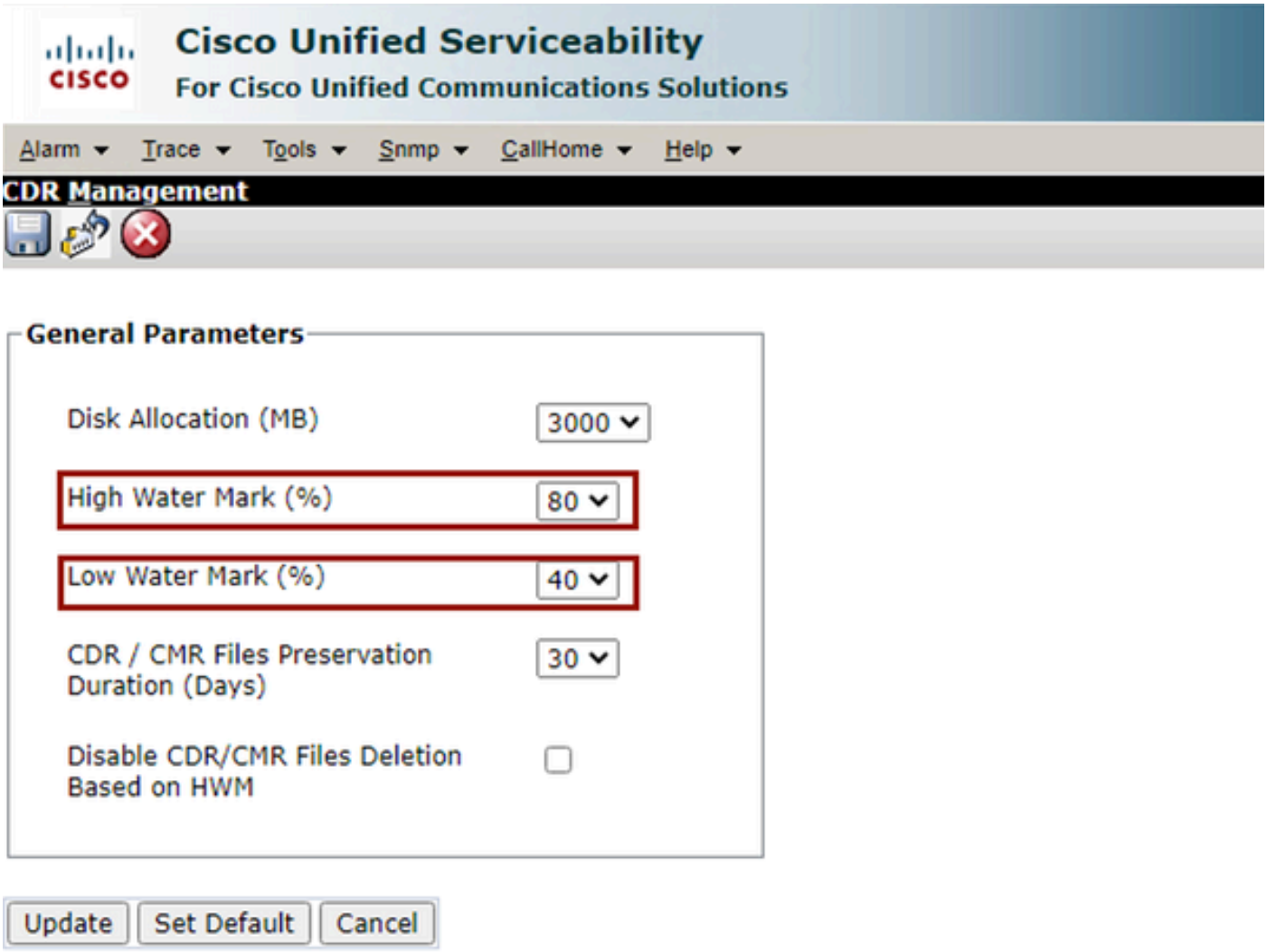
The File Manager component of the CDR Repository Manager runs hourly. When the File Manager runs, it deletes files with dates outside the configured preservation duration. It also checks whether the disk usage has exceeded the high water mark. If so, the system deletes the processed CDR files until the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



CDR Management Screen

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

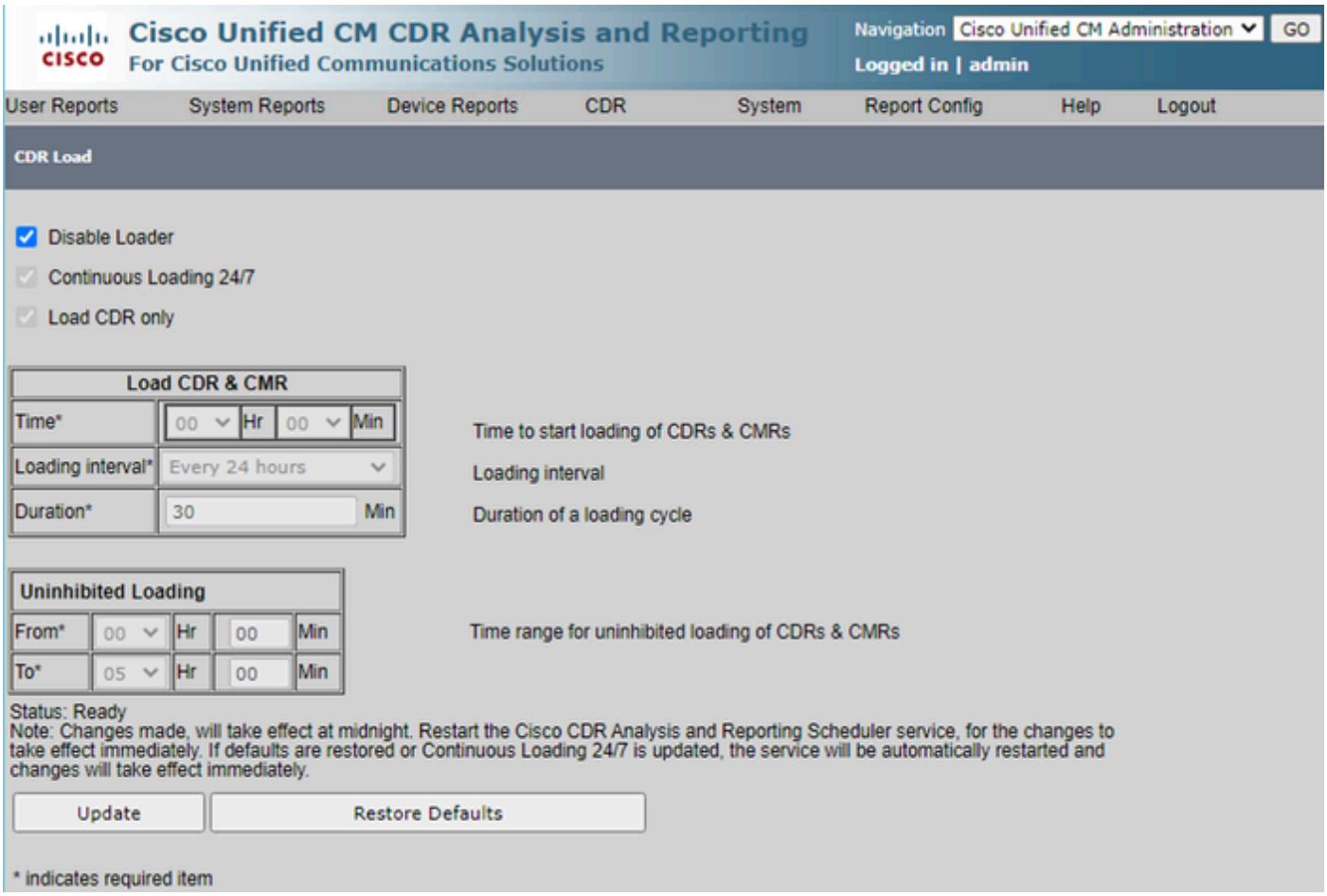


CDR Management Modify General Parameters Screen

Purge CDR Analysis and Reporting (CAR) Database

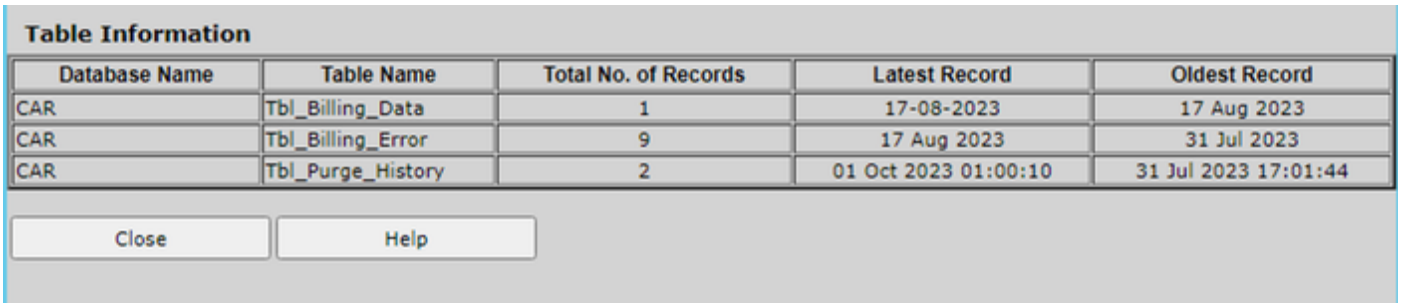
If CAR Database is using a lot of space, you can perform the purge of the database and release logging space. To do this:

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**.



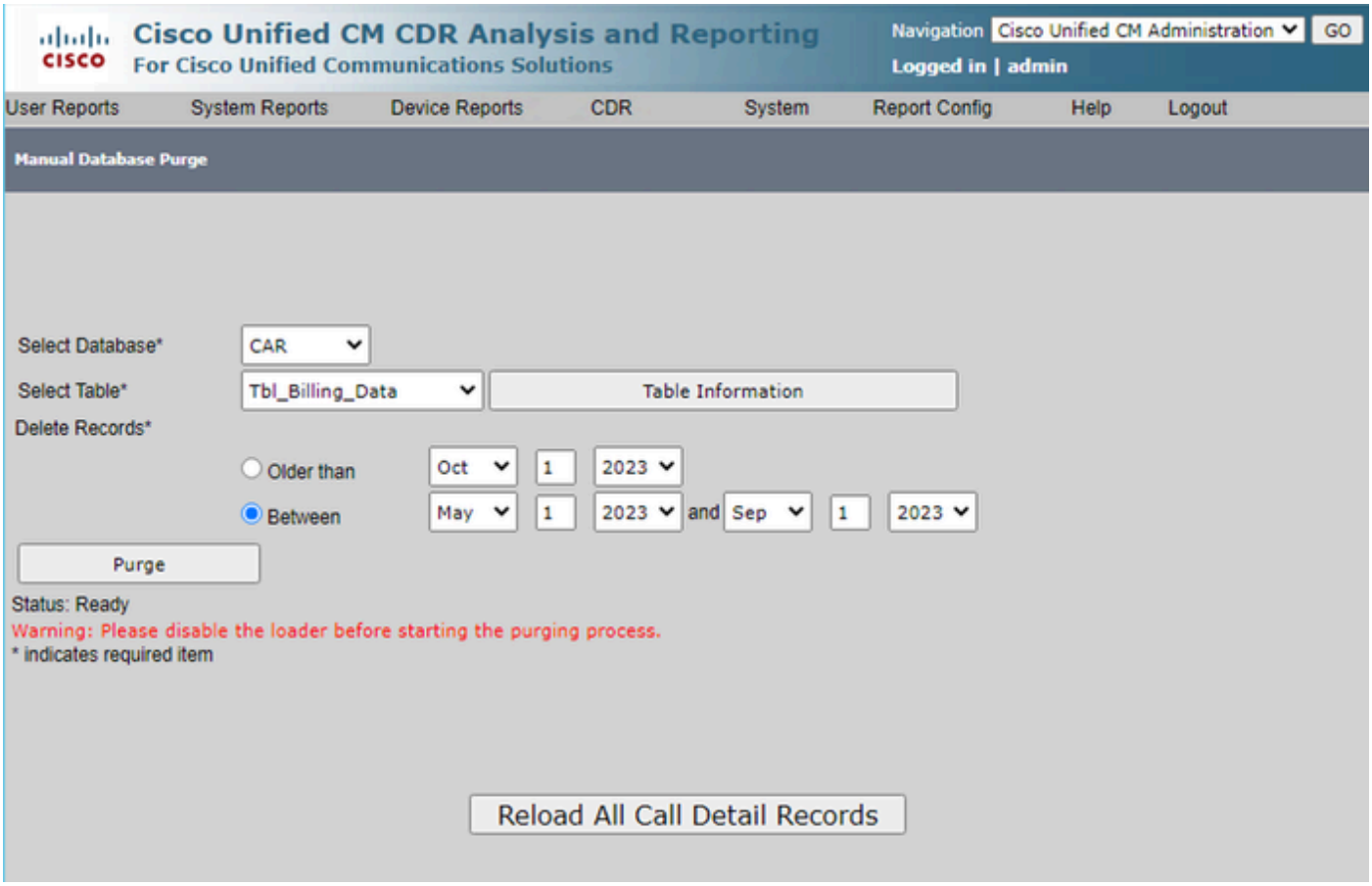
Disable Loader Screen

3. For the changes to take effect, navigate to **Cisco Unified Serviceability > Tools > Control Center - Network Services > Cisco CAR Scheduler** and restart service.
4. 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.



CAR Table Information Screen

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

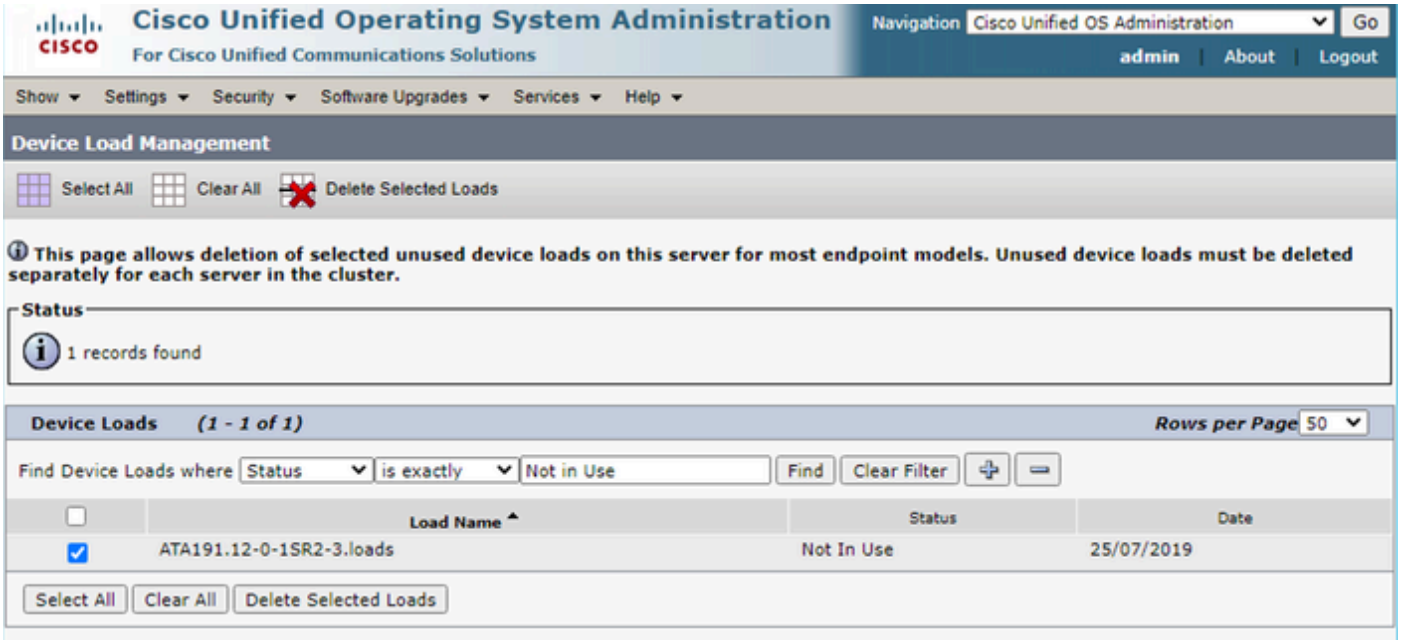


Manual Database Purge Screen

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**.



Device Load Management Screen

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