

# 排除CUCM中的完全通用分割槽故障

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## 簡介

本文檔介紹如何對Unified Communications Manager (CUCM)伺服器中的完全公共分割槽進行故障排除，以及如何清理儲存。

## 必要條件

### 需求

思科建議您瞭解以下主題：

- 即時監控工具(RTMT)
- CUCM GUI介面和CLI會話

### 採用元件

本文中的資訊係根據以下軟體和硬體版本：

- CUCM版本12.5.1.16900-48

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設

) 的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

## 背景資訊

CUCM有三個主磁碟分割槽：

- 磁碟/活動：包含當前CUCM版本及其配置。
- 磁碟/非使用中：包含舊版本，以防您因任何原因需要在升級後進行切換。
- 磁碟/記錄日誌：這又稱為一般分割區，保留所有啟用的記錄/追蹤檔，也用於在升級期間暫時儲存升級ISO檔。

以下兩種情況需要執行通用分割槽清理：

- 記錄檔旋轉已中斷，而且記錄檔未遭刪除，導致記錄檔(/common)分割區在未繫結的情況下成長。這可能會導致效能問題，因為無法記錄會影響不同命令的執行。
- CUCM升級需要在通用分割槽下佔用更多空間。[升級前準備COP檔案](#)在執行升級前驗證集群的不同方面，其中一個模組是磁碟空間檢查，因為CUCM升級要求公共分割槽中至少有25GB的可用空間。

## 驗證公用分割槽空間

要驗證磁碟空間，請使用show status命令，在命令末尾顯示磁碟使用情況。

```
<#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

用於驗證儲存的另一個命令是show tech runtime disk，使用此命令我們可以驗證每個分割槽的檔案系統，將磁碟/活動分割槽掛載到/，將Disk/inactive分割槽掛載到/partB，並將Disk/logging分割槽掛載到/common。

<#root>

admin:

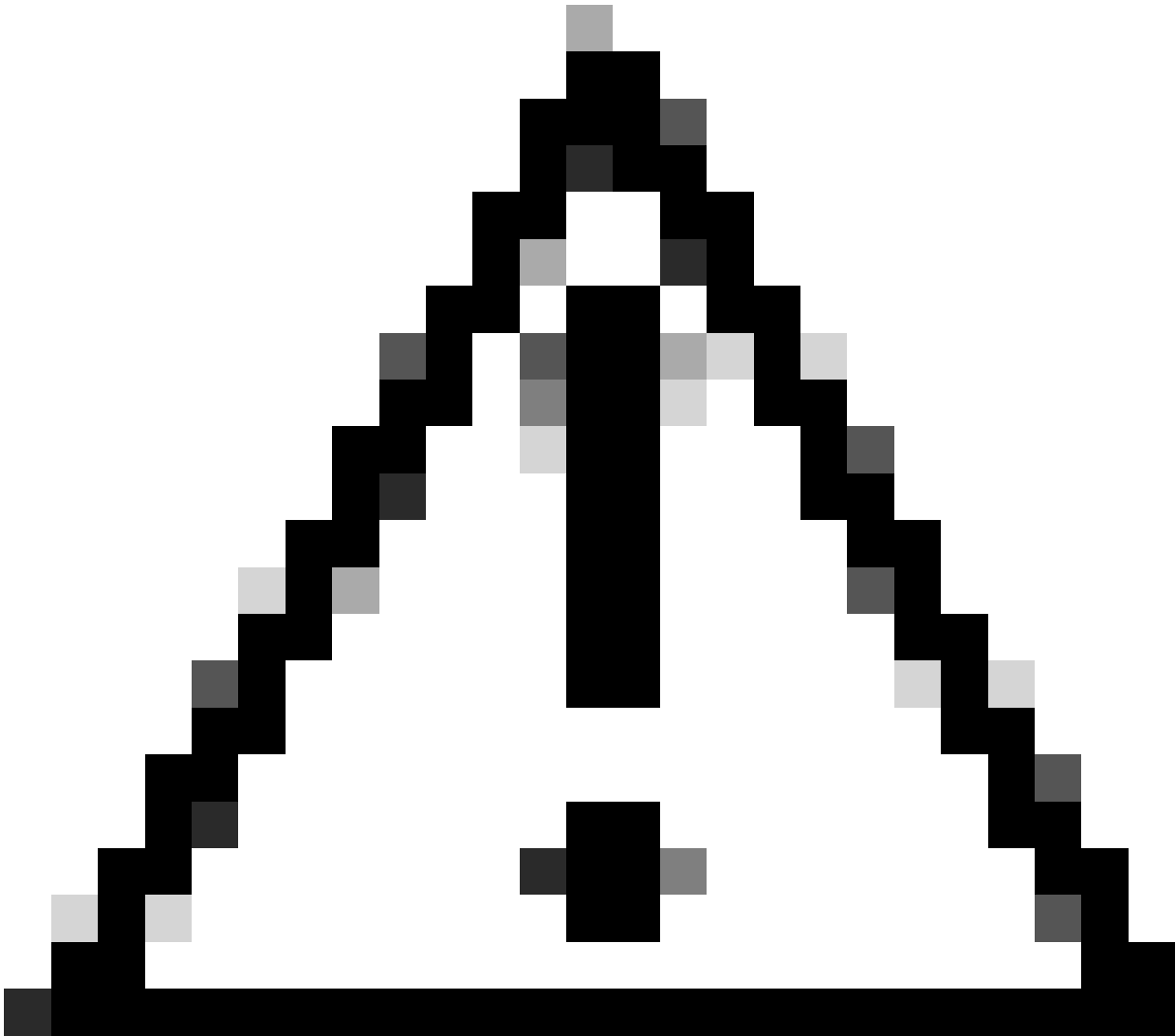
show tech runtime disk

----- 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/sd1	
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/sd1	
none	128M	0	128M	0%	/var/log/ramfs/cm/trace/cti/sdi	
none	128M	556K	128M	1%	/var/log/ramfs/cm/trace/cti/sd1	
tmpfs	781M	0	781M	0%	/run/user/504	
tmpfs	781M	0	781M	0%	/run/user/1000	
tmpfs	781M	0	781M	0%	/run/user/0	

## 常用分割槽清理方法



注意：如果不對整個集群執行DRS恢復，則無法恢復已刪除的檔案，請確保您瞭解所有已刪除檔案的影響。Cisco建議您在刪除任何檔案之前進行備份。

---

## 驗證虛擬化儲存需求

根據您的版本，您的CUCM實施必須符合磁碟虛擬化要求，請參閱[CUCM虛擬化指南](#)。使用show hardware命令驗證虛擬機器上的儲存。

```
<#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



注意：不支援增加vDisk，因為它需要由應用程式重新分割槽。如果儲存配置與要求不一致，則必須使用正確的OVA模板重建VM。

---

## 記錄分割監視工具

日誌分割槽監視工具(LPM)使用配置的閾值每5分鐘監視一次伺服器上日誌分割槽的磁碟使用情況。您可以在RTMT上配置兩個警報，以修改此閾值：

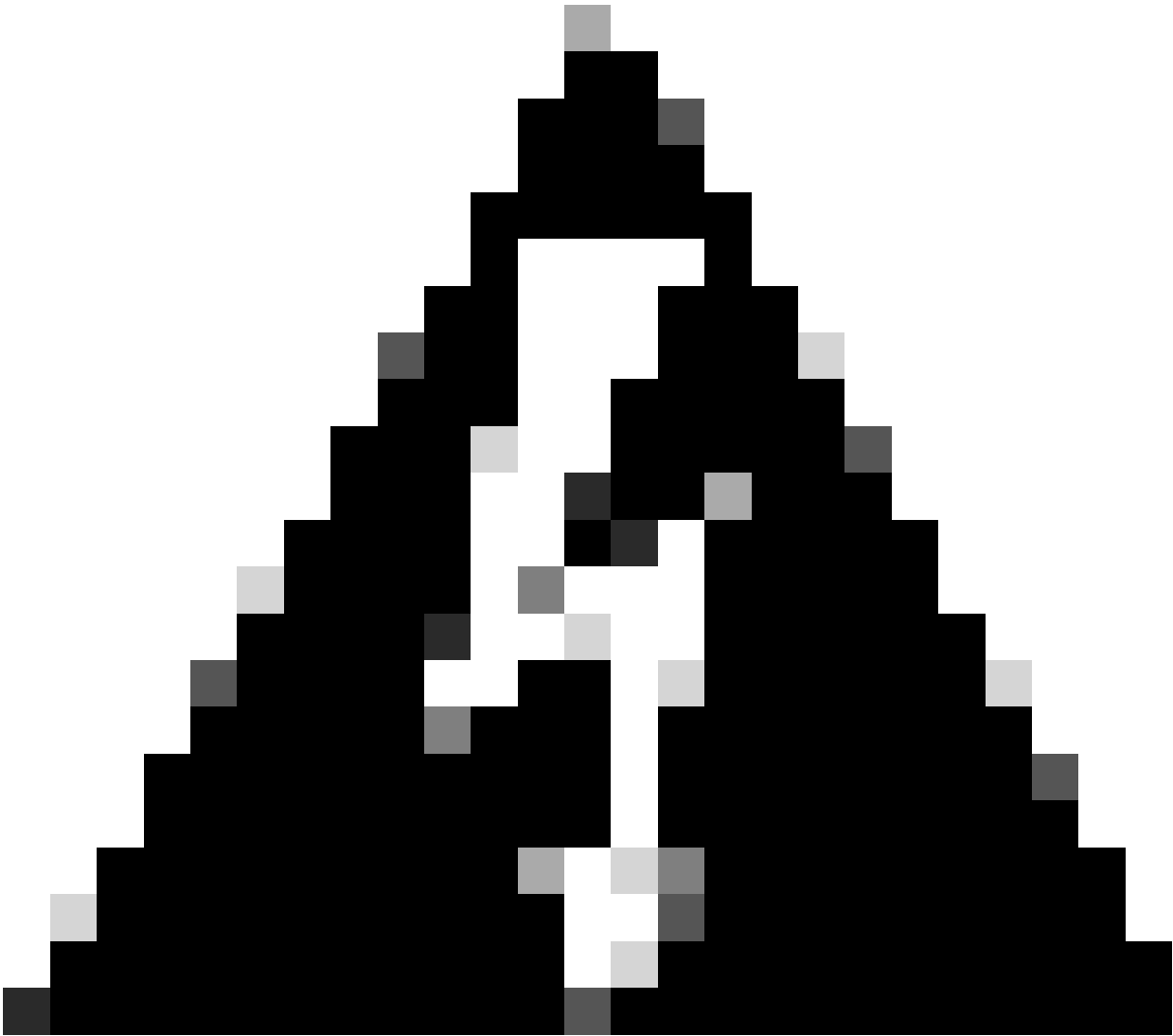
- LogPartitionLowWaterMarkExceeded (% disk space) -當磁碟使用率高於您指定的百分比時，LPM會向系統日誌傳送警報消息，並向RTMT警報中心傳送警報。要儲存日誌檔案並重新獲得磁碟空間，可以使用RTMT中的trace和log central選項。
- LogPartitionHighWaterMarkExceeded (% disk space) -當磁碟使用率高於您指定的百分比時，LPM會向系統日誌傳送警報消息，並向RTMT警報中心傳送警報。當達到此閾值時，將清除較舊的日誌檔案，這樣會在日誌記錄分割槽中建立額外的磁碟空間。

要清除檔案，請參閱[Call Manager的RTMT過程指南中的調整水印](#)。

## 執行可用空間備份檔案

如果在調整高/低水位線值後公共分割槽空間不足，則繼續安裝最新的Cisco可用公共空間COP檔案。



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警告：您必須在維護時段安裝修正程式，因為正常營業時間的安裝會暫時影響系統效能。請確定在系統上沒有其他CLI或GUI活動時安裝修補程式，因為修補程式會終止所有CLI和GUI工作階段並重新啟動Tomcat服務。


- 
1. 從[軟體下載](#)下載最新的Cisco Free Common Space COP檔案。檢視[ReadMe](#)檔案以瞭解運行此COP檔案的影響。
  2. 要安裝COP檔案，請導航到Cisco Unified OS Administration > Software Upgrades > Install/Upgrade，驗證軟體位置設定，然後按一下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.



安裝/升級軟體位置畫面

3. 選擇可用公共空間COP檔案並按一下下一步。


**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

---

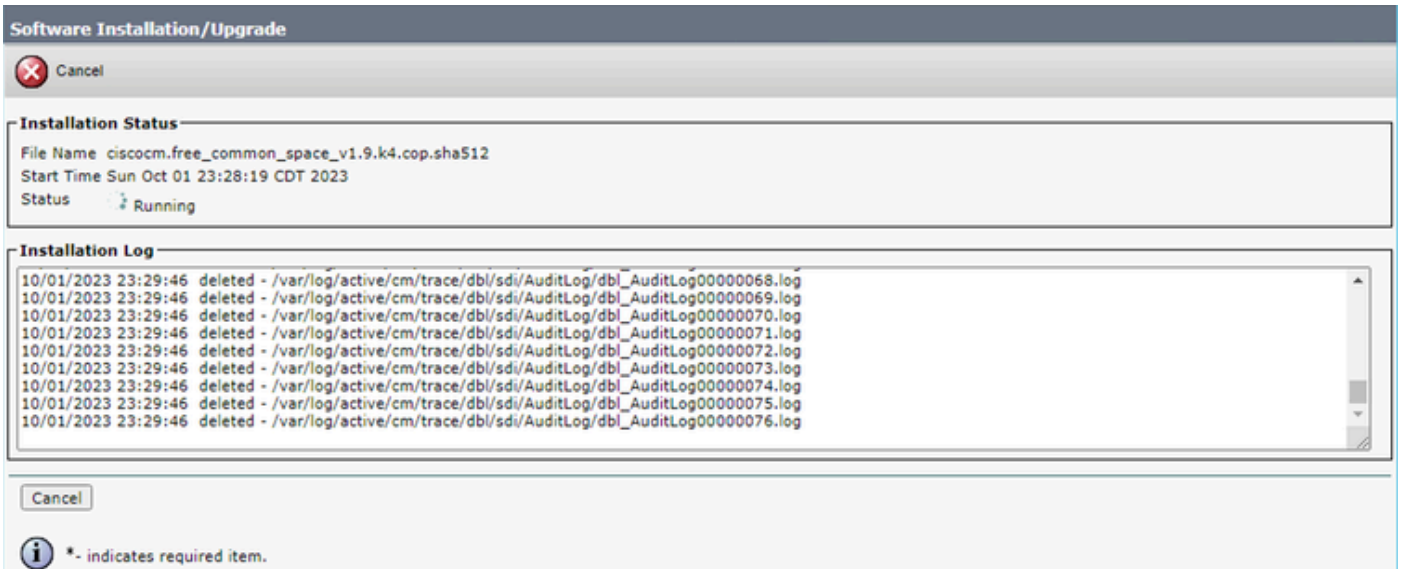
**Software Location**

Options/Upgrades\*

軟體檔案選擇螢幕



#### 4. COP檔案開始執行並釋放公共分割槽空間。



正在安裝COP檔案螢幕

#### 透過CLI刪除日誌

當日誌記錄分割槽已滿(100%)時，COP安裝將失敗，對於此情況，可以從CLI手動刪除日誌。運行 `show diskusage common sort` 命令以辨識消耗大量空間的大型檔案。

```
<#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/cardbpace
6222004 /common/log/taos-log-a/car_db/cardbpace
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/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
```

## 刪除cm/跟蹤日誌

以下是save命令，用於從cm/trace路徑中刪除日誌檔案，一次運行一個：

- 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/tris/csv/\*
- file delete activelog tomcat/logs/ccmservice/log4j/\*
- file delete activelog /platform/snmp/\*/\*

## 刪除核心轉儲

核心轉儲通常佔用大量磁碟空間，可以使用**utils core active list**和**utils core inactive list**命令確定這些轉儲。

<#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
```

根據分割槽，使用file delete activelog core/filename或file delete inactivelog core/filename刪除核心轉儲，並確認不再列出任何核心。

```
<#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
```

修改呼叫詳細記錄(CDR)低/高水位線值

CDR儲存區域管理員的「檔案管理員」元件每小時執行一次。當File Manager運行時，它會刪除日期在配置的保留持續時間之外的檔案。它也會檢查磁碟使用量是否已超過高浮水印。如果是，系統會刪除處理的CDR檔案，直到達到低水位線（從最舊的檔案開始）。

- 導航到Cisco Unified Serviceability > Tools > CDR Management，然後按一下General Parameters部分下的第一個值。



### 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	<input type="checkbox"/>	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管理畫面

- 修改高水位標籤(%)和低水位標籤(%)。



## CDR Management



### 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

Update

Set Default

Cancel

CDR管理修改一般引數畫面

永久刪除CDR分析與報告(CAR)資料庫

如果CAR資料庫使用大量空間，您可以執行清除資料庫並釋放日誌記錄空間。為此，請執行以下操作：

- 訪問CAR網頁，導航到Cisco Unified Serviceability > Tools > CDR Analysis and Reporting。
- 停用載入程式，導航到System > Scheduler > CDR Load，選中Disable Loader覆取方塊，然後按一下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
Time to start loading of CDRs & CMRs				
Loading interval*	Every 24 hours			
Loading interval				
Duration*	30	Min		
Duration of a loading cycle				

Uninhibited Loading				
From*	00	Hr	00	Min
Time range for uninhibited loading of CDRs & CMRs				
To*	05	Hr	00	Min

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.

\* indicates required item

停用載入器畫面

- 要使更改生效，請導航到Cisco Unified Serviceability > Tools > Control Center - Network Services > Cisco CAR Scheduler，然後重新啟動服務。
- 要清除CAR DB，請導航到系統>資料庫>手動清除，然後按一下表資訊以驗證每種表型別的最早記錄。

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

CAR表格資訊畫面

- 按一下關閉，然後選擇日期範圍，以便清除選定表中的檔案。

The screenshot displays the Cisco Unified CM CDR Analysis and Reporting interface. At the top, the navigation bar includes "Cisco Unified CM Administration" and "GO". Below this, a menu bar lists "User Reports", "System Reports", "Device Reports", "CDR", "System", "Report Config", "Help", and "Logout". The main heading is "Manual Database Purge".

The configuration section includes:

- Select Database\***: A dropdown menu set to "CAR".
- Select Table\***: A dropdown menu set to "Tbl\_Billing\_Data", with a "Table Information" button to its right.
- Delete Records\***: Two radio button options: "Older than" and "Between". The "Between" option is selected.
- Older than configuration**: Three dropdown menus for month ("Oct"), day ("1"), and year ("2023").
- Between configuration**: Two sets of dropdown menus for month and day. The first set is "May 1 2023" and the second is "Sep 1 2023", with an "and" label between them.
- Purge**: A button to execute the purge operation.

Below the configuration, the status is "Ready". A red warning message reads: "Warning: Please disable the loader before starting the purging process." A note below states: "\* indicates required item".

At the bottom of the page, there is a button labeled "Reload All Call Detail Records".

手動清除資料庫畫面

已刪除未使用的電話韌體檔案

對於升級情況，如果公共分割槽中沒有足夠的空間，請從TFTP中刪除舊/未使用的韌體。為此，請執行以下操作：

- 導航到Cisco Unified OS Administration > Software Upgrades > Device Load Management。
- 應用過濾器Find Device Loads，其中> Status > is exactly > Not In Use > Find。
- 刪除狀態為Not In Use的所有裝置載入。

The screenshot displays the Cisco Unified Operating System Administration interface for Device Load Management. At the top, there is a navigation bar with the Cisco logo and the text "Cisco Unified Operating System Administration For Cisco Unified Communications Solutions". The navigation menu includes "Navigation", "Cisco Unified OS Administration", "Go", "admin", "About", and "Logout". Below the navigation bar, there are tabs for "Show", "Settings", "Security", "Software Upgrades", "Services", and "Help".

The main content area is titled "Device Load Management" and includes buttons for "Select All", "Clear All", and "Delete Selected Loads". A message states: "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." Below this message, there is a "Status" section indicating "1 records found".

The "Device Loads" table shows the following data:

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

At the bottom of the table, there are buttons for "Select All", "Clear All", and "Delete Selected Loads".

裝置載入管理螢幕

## 疑難排解

如果需要進一步的幫助，請向思科TAC提交支援請求並收集以下命令：

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

## 相關資訊

- [升級準備情況檢查CUCM和IMPS的COP檔案](#)
- [在Call Manager過程的RTMT中調整水印](#)
- [Cisco Unified Real-Time Monitoring Tool管理指南](#)
- [Cisco Unified CDR Analysis and Reporting管理指南](#)
- [通話明細記錄管理指南](#)



- [思科技術支援與下載](#)

## 關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。