# Managing Server Resources in Cisco Vision Director

Before an event, validate the system readiness for CPU, memory (RAM), and disk utilization to be sure that you have enough resources.

**Note:** Measurement units for storage in Cisco Vision Director are based on a KB equivalent of 1024 bytes [known as a kibibyte (KiB)], not 1000 bytes.

Therefore, a notation of MB actually means 1,048,576 (1024 x 1024) bytes in Cisco Vision Director.

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## Information About Monitoring System Utilization

This section includes the following topics:

- Server Utilization Information, page 247

- Server Alert Thresholds, page 248

- CPU Utilization, page 249

- Memory Utilization, page 249

- Disk Utilization, page 250

## Server Utilization Information

The Cisco Vision Director Server monitoring service (named Director Service OS) polls system status every 30 seconds for the CPU, memory (RAM), and disk utilization.

Utilization status is reported based on the server alert thresholds configured in the **Management Dashboard**.

The gauges in the CV Director **Server Utilization** panel in the **Management Dashboard** provide an at-a-glance view of the percentage of CPU, memory, and disk space usage for the Cisco Vision Director Server (Figure 1 on page 248).

**Note:** The browser does not automatically update the utilization status; you must click the refresh button.

**Figure 1    Cisco Vision Director Server Utilization**
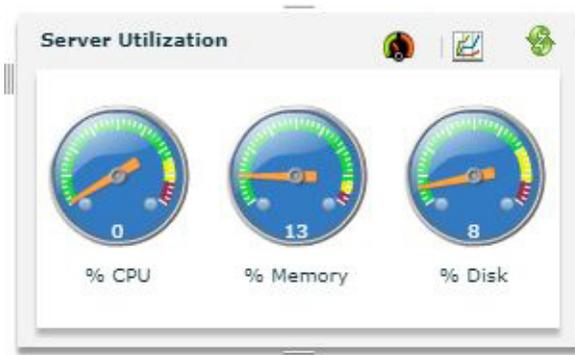


**IMPORTANT:** The **Management Dashboard** shows a critical alert when the CPU or Disk utilization goes above 90%, or if the Memory utilization goes above 95%.

**TIP:** You can also find the current CPU, memory, and disk utilization percentages in the daily Vision Health Report.

## Server Alert Thresholds

Utilization status and alerts are reported based on the server alert thresholds configured in the **Management Dashboard**.

Two alert thresholds are defined for CPU, free memory, and disk space:

- **Warning**—Warning thresholds define the yellow area of the server utilization gauges.

- **Error**—Error thresholds define the red area of the server utilization gauges and correspond to critical alerts.

**To check the default values of server alert threholds:**

Go to **More > Management Dashboard > Dynamic Signage Director Configuration > System Configuration > Management Dashboard > Power over Ethernet > Server Alert Thresholds.**

shows the default threshold values for the different system areas.

**Figure 2     Default Values for Server Alert Thresholds**
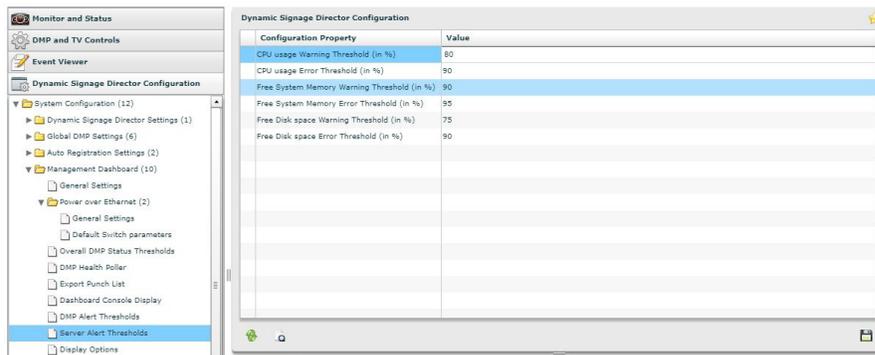


## CPU Utilization

If CPU utilization is above the 90% alarm threshold for a short period of time, it is probably acceptable. However, if CPU utilization remains elevated, there is a problem with a runaway process or task that is consuming all of the available CPU, which can result in reduced responsiveness in the system.

Look at the system to determine how to resolve the problem. The **Management Dashboard** caches the last executed report. Always make a new request / refresh to get the most up-to-date information (Figure 3 on page 249).

If necessary, open a case with Cisco Technical Support and provide a thread dump taken from the System State Report tool.

**Figure 3     Management Dashboard Server Utilization and Monitored Services**
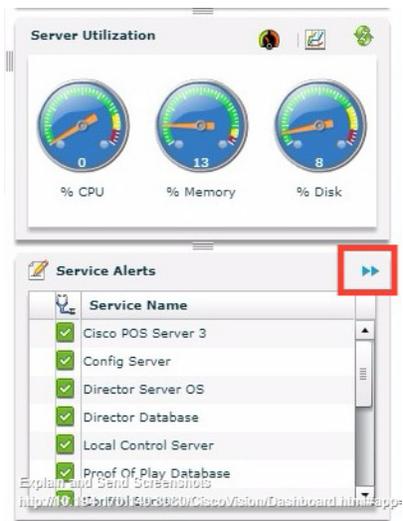


## Memory Utilization

If memory utilization is above the 90% alarm threshold for over a long period of time, there could be something running in the system which is using more memory than it should. Identify which processes are using the most memory.

Table 1 on page 250 shows the total memory on a Cisco Vision Director server and the usage that crosses the alarm threshold.

**IMPORTANT:** If memory utilization is above 90%, open a case with Cisco Technical Support.

**Table 1        Memory Utilization and Threshold Values**

| RAM | Size |
|---|---|
| Total Memory | 32 GB (Platform 3) <br> 16 GB (Platform 2) |
| Cisco Vision Director Cached Memory | 10 GB |
| Memory Usage that Crosses the Alarm Threshold | 14.5 GB |

## Disk Utilization

If disk utilization is above the threshold, the disk space is filling up. The disk might fill up from having a lot of backup files, proof-of-play files, or log files, in addition to your content.

Table 2 on page 250 shows the total hard disk size and recommended minimum free space.

**Table 2        Hard Disk Values**

| Disk Size | Size |
|---|---|
| Total Disk Size | 320 GB |
| Minimum Free Space | 15 GB |

**IMPORTANT**: The Daily Backup task might consume the hard disk space limit, which can cause the system to fail in unexpected ways.

# How to Manage Disk Utilization

This section includes the following topics:

- Modifying File Retention Periods on the Cisco Vision Director Server, page 250

- Using the Event Viewer to Monitor Disk Alerts, page 251

- Deleting System Files, page 251

## Modifying File Retention Periods on the Cisco Vision Director Server

User Role: Installer (Administrator)

Cisco Vision Director allows you to define retention periods for backup and log files in the Text Utility Interface (TUI).

The default settings are:

- Backup files—One file. The backup retention policy can be modified to 2, 5, 7, or 10 files.

- Log files—15 days. The log retention policy can be modified to 5 or 10 days.

**CAUTION**: Track your overall disk utilization and the size of your backup content so the number of files that you want to keep can be supported by your system resources.

For more information about using the TUI, see the " Cisco Vision Director Text Utility Interface" module of the Cisco Vision Director Server Administration Guide.

**To modify the file retention periods:**

**Note:** The retention policy must be changed on both the primary and secondary servers.

1. Log into the TUI.

2. Go to **Cisco Vision Server Administration > Retention Policy**.

3. Select the **Backup/restore Files** menu or the **Log Files** menu and type the letter for the retention period.

## Using the Event Viewer to Monitor Disk Alerts

User Role: Administrator

If you have the Director Server enabled for monitoring (recommended), you can look for any alerts on the Director Server in the Service Alerts window in the **Management Dashboard**.

Disk space alerts are based on the disk alert thresholds set for the server.

**To use the event viewer to monitor disk alerts:**

1. Go to **More > Management Dashboard > Event Viewer** drawer **> All Events > System.**

2. In the Events panel, look for "DEGRADED" in the **Sub Type** column for the "Service Monitor" in the **Source** column.

## Deleting System Files

User Role: Installer (Administrator)

You can use the TUI to remove the following types of system files:

- Log files

- System state reports

- ISO upgrade files

- Backup files

**IMPORTANT**: The TUI clean file options remove all instances of the selected file type.

For more information about using the TUI, see the Cisco Vision Dynamic Signage Director Server Text Utility Interface module of the Cisco Vision Administration Guide: Dynamic Signage Director, 6.2.

**To delete system files:**

1. Log into the TUI.

2. Go to **Troubleshooting > Disk Monitoring > Delete Files.**

3. From the Delete Files menu, type the letter option for the file type that you want to delete.

4. At the prompt, confirm the removal.

# Running Database Maintenance

User Role: Installer (Administrator)

One way to see if you might need to run database maintenance is to look at the backup log (/var/log/svd-config/backup-**YYYMMddHHMMSSz**.log). If you see that the table updates are other than "OK" or not up-to-date, then run database maintenance.

**Note:** Slow performance is another possible sign that database maintenance is needed.

For more information about using the TUI, see the" Cisco Vision Director Text Utility Interface" module of the Cisco Vision Administration Guide: Dynamic Signage Director, 6.2.

**IMPORTANT:** You must be sure to restart Cisco Vision Director software after maintenance is complete. The best practice is to shut down the Cisco Vision Director software **before** running database maintenance and then restart it after maintenance is complete. However, even if you did not shut down prior to running maintenance, you still must restart the Cisco Vision Director software.

**To run database maintenance:**

1. Log into the TUI.

2. (Recommended) Shut down the Cisco Vision Director software. From the Main Menu, go to: **Cisco Vision Server Administration > Shutdown Dynamic Signage Director Software (option d)**.

3. From the Cisco Vision Server Administration menu, select **Database Maintenance** (Figure 4 on page 252).

**Figure 4    TUI Database Maintenance Option**

```
Main Menu > Cisco Vision Server Administration

              Please choose one of the following menu options:

                    a) Display Software Version
                    b) Upgrade Server
                    c) Restart Dynamic Signage Director software
                    d) Shutdown Dynamic Signage Director software
                    e) Setup automatic backup and restore
                    f) Re-Run CiscoVision initial configuration
                    g) Retention Policy
                    h) Database Maintenance
                    i) Clear Switch Host Keys
                    j) Failover
                    k) Setup Memory Profile
                    l) Reboot
                    m) Power Off
                    n) Clean up content import history table
                    o) Restore and Migrate Release 6.1 Backup
                    p) Restore all system data from system backup
           R or < or ,) Return to prior menu
```

4. At the confirmation prompt, press Y to start the process (Figure 5 on page 252).

**Figure 5    Database Maintenance Confirmation Prompt**

```
------------------------------------------------------------------------
         Database Maintenance.
This will repair and optimize the database. Ideally, Cisco Vision Dynamic Signage Director should not be runn
ing to do this operation. Do you want to continue?
  PRESS Y TO CONTINUE, PRESS N TO CANCEL
```

5. As the maintenance runs, the status of each table update is shown (Figure 6 on page 253).

**Figure 6     Database Maintenance Table Updates**



```
iapps_1.x_script_schedule                                    OK
iapps_1.x_scriptinstance                                     OK
iapps_1.x_services_in_servicetype                            OK
iapps_1.x_servicetype                                        OK
iapps_1.x_site                                               OK
iapps_1.x_site_user                                          OK
iapps_1.x_stagingassetinfo                                   OK
iapps_1.x_staginginfo                                        OK
iapps_1.x_state                                              OK
iapps_1.x_stateinstance                                      OK
iapps_1.x_suites_in_zone                                     OK
iapps_1.x_switch                                             OK
iapps_1.x_t_activescript                                     OK
iapps_1.x_t_activescript_destinations                        OK
iapps_1.x_t_activescript_runtime                             OK
iapps_1.x_t_activescript_siteids                             OK
iapps_1.x_t_current_dmp_status                               OK
iapps_1.x_t_multicast_routing_entry                          OK
iapps_1.x_t_multicast_routing_entry_sitemulticastlisteners OK
iapps_1.x_t_multicast_routing_entry_sitemulticastsenders OK
iapps_1.x_tag                                                OK
iapps_1.x_template                                           OK
iapps_1.x_ticker                                             OK
iapps_1.x_tickercontent                                      OK
iapps_1.x_tomcat_roles                                       OK
iapps_1.x_tomcat_users                                       OK
iapps_1.x_trigger_history                                    OK
iapps_1.x_trigger_history_logentries                         OK
```

6. When database maintenance is complete, restart the Cisco Vision Director software.

7. From the TUI Main Menu, go to: **Cisco Vision Server Administration > Restart Dynamic Signage Director Software (option c).**

Running Database Maintenance