



## CHAPTER 16

# Administering Statistical Data Collection

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This chapter describes how to administer Statistical Data Collection in the Cisco Data Center Network Manager (DCNM).

This chapter includes the following sections:

- [Information About Statistical Data Collection, page 16-1](#)
- [Licensing Requirements for Statistical Data Collection, page 16-2](#)
- [Prerequisites for Statistical Data Collection, page 16-2](#)
- [Guidelines and Limitations for Statistical Data Collection, page 16-3](#)
- [Configuring Statistical Data Collection, page 16-3](#)
- [Viewing the Status of Statistical Data Collectors, page 16-8](#)
- [Field Descriptions for Statistical Data Collection, page 16-9](#)
- [Additional References, page 16-10](#)
- [Feature History for Statistical Data Collection, page 16-11](#)

## Information About Statistical Data Collection

You can use the Statistical Data Collection feature to control the statistics monitoring processes that you have created for one of the many device configuration features that support statistics.

When you choose Statistical Data Collection on the Feature Selector pane, the content pane shows information about each statistical collection and allows you to control them. You can also use this feature to purge old data from the statistical database.

You can configure the length of time that Cisco Data Center Network Manager (DCNM) waits before retrieving statistical data from devices that it is monitoring. By default, Cisco DCNM retrieves statistical data from monitored devices every 30 seconds. You can increase the length of time to a maximum of 4 minutes. For more information, see the “[Configuring the Default Frequency of Statistical Data Retrieval](#)” section on page 4-14.

This section includes the following topics:

- [Automatic and Manual Purging of Statistical Data, page 16-2](#)
- [Virtualization Support, page 16-2](#)

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## Automatic and Manual Purging of Statistical Data

You can use the Statistical Data Collection feature to delete unwanted statistical data. Cisco DCNM supports automatic purging of statistical data. You can configure the following aspects of automatic statistical data purging:

- Days of the week and time of day that automatic purging occurs.
- Whether Cisco DCNM determines which statistical data to purge by the age of the data or by a maximum number of database entries.
- Whether Cisco DCNM deletes the statistical data entries that it purges or consolidates them into one entry.

You can also manually purge statistical data.

## Virtualization Support

Cisco DCNM treats each virtual device context (VDC) on a Cisco NX-OS device as a separate device. Statistical data collections contain statistics from objects within devices.

## Licensing Requirements for Statistical Data Collection

The following table shows the licensing requirements for this feature:

Product	License Requirement
Cisco DCNM	<p>Real-time monitoring requires no license.</p> <p>Cisco DCNM requires a LAN Enterprise license for the following features:</p> <ul style="list-style-type: none"> <li>• Maintaining a history of statistical data</li> <li>• Using overview charts</li> </ul> <p>For information about obtaining and installing a Cisco DCNM LAN Enterprise license, see the <a href="#">“Installing Licenses”</a> section on page 2-11.</p>

## Prerequisites for Statistical Data Collection

Statistical data collection has the following prerequisites:

- The Cisco DCNM server must be able to connect to the devices.
- The Cisco NX-OS device must be running a supported version of Cisco NX-OS.
- The Cisco NX-OS device must have the minimal configuration that is required to enable device discovery to succeed. For more information, see the [“Cisco NX-OS Device Preparation”](#) section on page 6-2.

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## Guidelines and Limitations for Statistical Data Collection

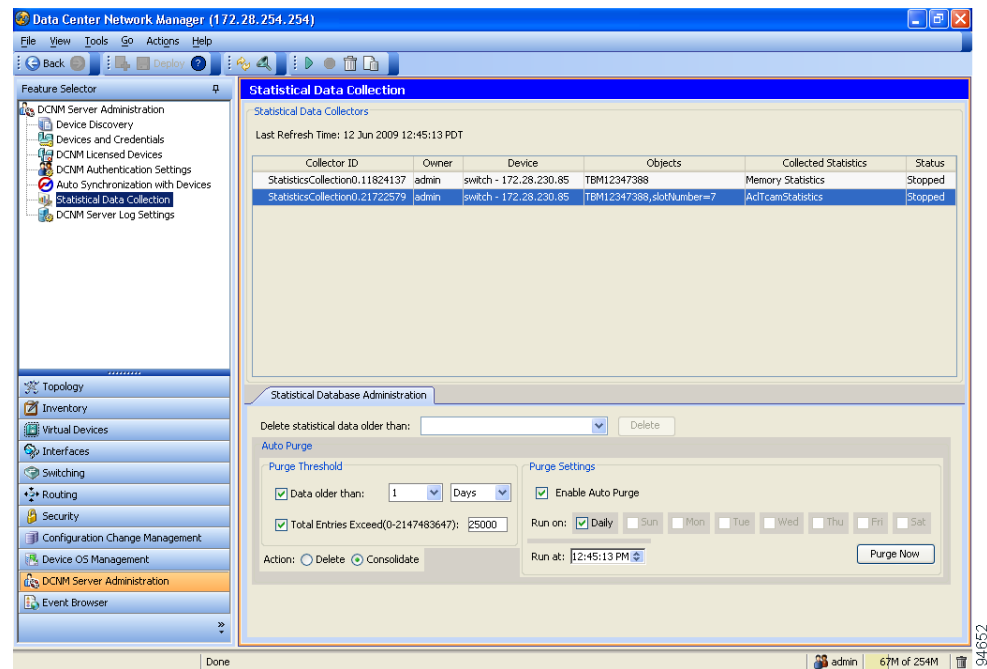
The Statistical Data Collection feature has the following configuration guidelines and limitations:

- Collections are created by starting monitoring for a new chart. For more information, see the “Starting Statistical Monitoring for a Chart” section on page 4-11.
- For the Statistical Data Collection feature, the Cisco DCNM client does not automatically update the information shown in the Summary pane. To ensure that you are viewing current information, from the menu bar, choose **View > Refresh**.
- When you start statistical monitoring for one or more charts and then close the Cisco DCNM client, a dialog box prompts you to decide whether to stop the collections or let them run. We recommend that you stop any unnecessary collections when you log out of the Cisco DCNM client. This practice conserves database space and decreases server load.
- We recommend that you configure automatic purging of statistical data to ensure that the Cisco DCNM database size does not grow too large.

## Configuring Statistical Data Collection

Figure 16-1 shows the Statistical Data Collection content pane.

**Figure 16-1** Statistical Data Collection Content Pane



This section includes the following topics:

- [Starting and Stopping Statistical Data Collection, page 16-4](#)
- [Deleting Statistical Data from a Collection, page 16-4](#)
- [Deleting a Collection, page 16-5](#)

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- [Deleting Data from the Statistics Database, page 16-5](#)
- [Enabling and Disabling Automatic Statistical Data Purging, page 16-6](#)
- [Configuring Automatic Statistical Data Purge Settings, page 16-6](#)
- [Purging Statistical Data Now, page 16-8](#)

## Starting and Stopping Statistical Data Collection

You can use the Statistical Data Collection feature to start and stop a statistical data collection process. Each collection process represents a statistical monitoring process that you created by starting monitoring for a device configuration feature.

### DETAILED STEPS

To start or stop a collection process, follow these steps:

- 
- Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**. A table of statistical data collectors appears in the Contents pane. Each row corresponds to a collector for a particular device. The Status field displays whether the collector is running or is stopped.
- Step 2** Click the collector that you want to start or stop.
- Step 3** Do one of the following:
- To start a collector, from the menu bar, choose **Actions > Start Collection**. The Status field changes to Running.
  - To stop a collector, from the menu bar, choose **Actions > Stop Collection**. The Status field changes to Stopped.

You do not need to save your changes.

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## Deleting Statistical Data from a Collection

You can delete statistical data from a collection. This feature allows you to delete all the data from a collection without affecting data from other collections and without deleting the collection itself. Each collection process represents a statistical monitoring process that you created by starting monitoring for a device configuration feature.

### DETAILED STEPS

To delete statistical data from a collection, follow these steps:

- 
- Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**. A table of statistical data collectors appears in the Contents pane. Each row corresponds to a collector for a particular device. Devices are listed alphabetically. The Status field displays whether the collector is running or is stopped.
- Step 2** Right-click the collection.

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- Step 3** From the menu bar, choose **Actions > Delete Statistical Data**.  
Cisco DCNM deletes all statistical data from the collection.
- 

## Deleting a Collection

You can delete a collection of statistical data from a specific device. Each collection process represents a statistical monitoring process that you created by starting monitoring for a device configuration feature.

**Note**

If you want to delete all data from a collections rather than deleting the collection itself, perform the steps in the [“Deleting Statistical Data from a Collection”](#) section on page 16-4.

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### BEFORE YOU BEGIN

Determine which collection of data you want to delete.

### DETAILED STEPS

To delete a collection of statistical data from a device, follow these steps:

- Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**.  
A table of statistical data collectors appears in the Contents pane. Devices are listed alphabetically. Each row corresponds to a collection of statistical data for a particular device.
- Step 2** Click the collection of data that you want to delete.
- Step 3** From the menu bar, choose **Actions > Delete Collection**.  
The collection is deleted.  
You do not need to save your changes.
- 

## Deleting Data from the Statistics Database

You can delete statistical data from the statistics database.

**Note**

If you want to delete all data from a specific collection rather than deleting old data from all collections, perform the steps in the [“Deleting a Collection”](#) section on page 16-5.

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### BEFORE YOU BEGIN

Determine the date and time of the newest statistical data that you want to delete. When you follow the steps in this procedure, Cisco DCNM deletes all statistics that are older than the date and time that you select.

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## DETAILED STEPS

To delete data from the statistics database, follow these steps:

- 
- Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**. The Statistics Database area appears in the Contents pane, below the table of statistical data collectors.
- Step 2** From the Delete statistical data older than drop-down list, select the date and time of the newest statistics that you want to delete and click **OK**.
- Step 3** Click **Delete**.  
Cisco DCNM deletes all statistics older than the date and time that you specified.
- 

## Enabling and Disabling Automatic Statistical Data Purging

You can enable or disable the automatic purging of statistical data from the Cisco DCNM statistics database.

## DETAILED STEPS

To enable or disable automatic statistical data purging, follow these steps:

- 
- Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**. The Statistical Database Administration tab appears in the Details pane, below the table of statistical data collectors.
- Step 2** Under Purge Settings, do one of the following:
- To enable automatic statistical data purging, check **Enable Auto Purge**.
  - To disable automatic statistical data purging, uncheck **Enable Auto Purge**.
- Step 3** From the menu bar, choose **File > Deploy** to save your changes to the Cisco DCNM server.
- 

## Configuring Automatic Statistical Data Purge Settings

You can configure when automatic statistical data purging occurs and the criteria that Cisco DCNM uses to determine which statistical data to purge.

## BEFORE YOU BEGIN

Determine when you want automatic statistical data purging to occur. We recommend that automatic statistical data purging occur when Cisco DCNM usage is low.

If you perform backups of your Cisco DCNM databases, consider scheduling automatic statistical data purging after database backups have occurred, to ensure that you retain a record of all statistical data.

Determine what criteria you want Cisco DCNM to use to determine which statistical data to purge. The two criteria available are as follows:

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- Age of statistical data—Cisco DCNM can purge all statistical data entries that are older than a specific number of days, weeks, or months.
- Number of statistical data entries in the database—When the number of statistical data entries in the database exceeds the maximum number that you specify, Cisco DCNM can purge the oldest statistical data entries first until the maximum number is not exceeded.

If you enable both criteria, Cisco DCNM applies them independently of each other.

### DETAILED STEPS

To configure automatic statistical data purge settings, follow these steps:

- Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**. The Statistical Database Administration tab appears in the Details pane, below the table of statistical data collectors.
- Step 2** Under Purge Threshold, configure the criteria that Cisco DCNM uses to determine which statistical data to purge. You can configure either or both of the criteria in the following table:

Purge Criteria	How to Configure
Age of statistical data	<ol style="list-style-type: none"> <li>1. Check <b>Data older than</b>.</li> <li>2. From the first drop-down list, choose the number of days, weeks, or months.</li> <li>3. From the second drop-down list, choose <b>Days, Weeks, or Months</b>, as needed.</li> </ol>
Number of statistical data entries in the database	<ol style="list-style-type: none"> <li>1. Check <b>Total Entries Exceed(0-2147483647)</b>.</li> <li>2. In the box, enter the maximum number of entries that you want to allow in the statistical database.</li> </ol>

- Step 3** Configure the action that you want Cisco DCNM to take on statistical database entries that meet the purge criteria. You can choose one of the following:
- **Delete**—Cisco DCNM deletes the database entries that meet the purge criteria.
  - **Consolidate**—Cisco DCNM merges all statistical data entries that meet the purge criteria into one entry
- Step 4** Under Purge Settings, follow these steps to configure when you want automatic purging to occur:
- a. Check the days-of-the-week check boxes to specify which days of the week that you want automatic purging to occur.
  - b. Use the **Run at** box to configure the exact time on the specified days that you want automatic statistical data purging to occur.
- Step 5** (Optional) If you want to enable automatic statistical data purging, check **Enable Auto Purge**.
- Step 6** From the menu bar, choose **File > Deploy** to save your changes to the Cisco DCNM server.

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## Purging Statistical Data Now

You can purge statistical data on demand, using the automatic statistical data purge settings to determine which statistical data are purged.

**Tip**

If you want to delete statistical data on demand, based on the exact age of the statistical data entries, see the [“Deleting Data from the Statistics Database”](#) section on page 16-5.

### BEFORE YOU BEGIN

Ensure that the automatic statistical data purge settings are configured as needed. For more information, see the [“Configuring Automatic Statistical Data Purge Settings”](#) section on page 16-6.

### DETAILED STEPS

To purge statistical data from the statistical database now, follow these steps:

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**Step 1** From the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**.

The Statistical Database Administration tab appears in the Details pane, below the table of statistical data collectors.

**Step 2** Under Purge Settings, click **Purge Now**.

Cisco DCNM deletes statistical data, using the automatic statistical data purge settings to determine which statistical data entries to purge.

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## Viewing the Status of Statistical Data Collectors

To view the status of statistical data collectors, from the Feature Selector pane, choose **DCNM Server Administration > Statistical Data Collection**.

Collector status and other information appear in the Statistical Data Collectors area in the Contents pane. For information about the fields that appear, see the [“Field Descriptions for Statistical Data Collection”](#) section on page 16-9.



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# Field Descriptions for Statistical Data Collection

This section includes the following field descriptions for the Statistical Data Collection feature:

- [Summary Pane, page 16-9](#)
- [Statistical Database Administration Tab, page 16-10](#)

## Summary Pane

**Table 16-1** Summary Pane

Field	Description
<b>Statistical Data Collectors</b>	
Last Refresh Time	<i>Display only.</i> Date and time that the Cisco DCNM client updated information shown on the Content pane.
Collector ID	<i>Display only.</i> Name and IP address of the device for the corresponding poller.
Owner	<i>Display only.</i> Username of the Cisco DCNM user who started monitoring for the chart that corresponds to the collection.
Device	<i>Display only.</i> Name and IP address of the device that is providing the statistical data in the collection.
Objects	<i>Display only.</i> Description of the entity on the device that is providing the statistical data in the collection.  For example, if the collection has statistical data for a rule that is assigned the sequence number 10 and is in an IPv4 ACL named acl-01, this field displays acl-01,seqNo=10.  If the collection has data for the Ethernet 1/5 port, this field displays Ethernet1/5.
Collected Statistics	<i>Display only.</i> Type of statistical data in the collection. For example, if the collection has statistical data for a rule in an IPv4 ACL, this field displays IpAclAceMatchStatistics.
Status	<i>Display only.</i> Whether the collector is started or stopped.
<b>Statistics Database</b>	
Delete statistical data older than	Date and time of the newest statistical data to be deleted from the statistics database. There is no default value for this field.

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## Statistical Database Administration Tab

Table 16-2 Statistical Database Administration Tab

Field	Description
Delete statistical data older than	Date and time of the newest statistical data to be deleted from the statistics database. There is no default value for this field.
<b>Auto Purge</b>	
Action	Whether automatic statistical data purging deletes or consolidates statistical data entries that trigger the purge threshold. Consolidation merges all statistical data entries that trigger the purge threshold into one entry.
<b>Purge Threshold</b>	
Data older than	Whether, during automatic statistical data purging, Cisco DCNM deletes statistics entries that are older than the age specified in the drop-down lists located to the right of this check box. By default, this check box is unchecked. If you check the check box, the default age is 1 day.
Total Entries Exceed	Whether, during automatic statistical data purging, Cisco DCNM deletes the oldest statistics entries until the number of entries equals the number in the box located to the right of this check box. By default, this check box is unchecked. If you check the check box, the default number of event is 25,000.
<b>Purge Settings</b>	
Enable Auto Purge	Whether automatic purging of statistical data is enabled. By default, this check box is disabled.
Run on	Days of the week that automatic purging of statistical data occurs. By default, none of the check boxes are checked. If you check the Daily check box, the check boxes for the individual days of the week become unavailable.
Run at	Time of day that automatic purging of statistical data occurs, on the days of the week that automatic purging is enabled.

## Additional References

For additional information related to administering statistical data collection, see the following sections:

- [Related Documents, page 16-10](#)
- [Standards, page 16-11](#)

## Related Documents

Related Topic	Document Title
Device discovery	<a href="#">Administering Device Discovery, page 6-1</a>

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## Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

## Feature History for Statistical Data Collection

Table 16-3 lists the release history for this feature.

**Table 16-3** Feature History for Statistical Data Collection

Feature Name	Releases	Feature Information
Statistical Data Collection	4.2(1)	No change from Release 4.1
Automatic purging of statistical data	4.1(2)	This feature was introduced.
Statistical Data Collection	4.1(2)	This feature was introduced.

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