C H A P T E R 31

Administering Auto-Synchronization with Devices

This chapter describes how to administer the Auto-Synchronization with Devices feature in Cisco Data Center Network Manager for LAN (DCNM-LAN).

Auto-synchronization allows the Cisco DCNM server to ensure that configuration and status information about managed devices is current. The Cisco DCNM server creates a poller process for each managed device. A poller process periodically retrieves system and accounting logs from a device. Cisco DCNM uses the information retrieved by poller processes to update its configuration and status information about polled devices. When you choose Auto Synchronization with Devices on the Feature Selector, the Contents pane displays all the poller instances that are running for different devices and allows you to control each.

You can also use the Auto-Synchronization with Devices feature to delete unwanted event data on demand or automatically.

This chapter includes the following sections:

Information About Auto-Synchronization with Devices

The Auto Synchronizing with Devices feature ensures that the Cisco Data Center Network Manager for LAN (DCNM-LAN) server has current configuration and status information about managed devices. The DCNM-LAN server creates one poller process for each device to retrieve the system and accounting logs that this feature requires.

When you choose Auto Synchronization with Devices on the Feature Selector pane, the Contents pane shows information about each poller process and allows you to control them.

You can configure the length of time that DCNM-LAN waits before polling a device again. DCNM-LAN sets a default polling interval for each managed device. The default value varies by the type of device. The range of polling interval values is displayed when you begin editing the polling interval field for the device. For more information, see the "Configuring the Polling Interval" section on page 31-4.

DCNM-LAN polls devices concurrently; however, to avoid polling all devices simultaneously, DCNM-LAN begins polling devices in alphabetical device-name order and delays each polling process by a short, random amount of time.

This section includes the following topics:

- Automatic and Manual Purging of Event Data, page 31-2
- Virtualization Support, page 31-2

Automatic and Manual Purging of Event Data

You can use the Auto-Synchronization with Devices feature to delete unwanted event data. DCNM-LAN supports automatic purging of event data. You can configure the following aspects of automatic event data purging:

- Days of the week and time of day that automatic purging occurs.
- Whether DCNM-LAN determines which event data to purge by the age of the data or by a maximum number of database entries.
- Severity level of events.

You can also manually purge event data.

Virtualization Support

DCNM-LAN treats each virtual device context (VDC) on a Cisco NX-OS device as a separate device. DCNM-LAN creates one poller process per device.

Licensing Requirements for Auto-Synchronization with Devices

The following table shows the licensing requirements for this feature:

Product	License Requirement
DCNM-LAN	Auto-Synchronization with Devices requires no license. Any feature not included in a license package is bundled with the DCNM-LAN and is provided at no charge to you. For information about obtaining and installing a Cisco DCNM LAN Enterprise license, see the *Cisco DCNM Installation and Licensing Guide, Release 5.x*.

Prerequisites for Auto-Synchronization with Devices

The Auto-Synchronization with Devices feature has the following prerequisites:

- The DCNM-LAN 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 "Verifying the Discovery Readiness of a Cisco NX-OS Device" section on page 29-7.

Guidelines and Limitations for Auto-Synchronization with Devices

The Auto-Synchronization with Devices feature has the following configuration guidelines and limitations:

- We recommend that you use the default device polling interval unless you encounter issues with synchronization due to slow responses from devices or to managing many devices. For more information, see the "Configuring the Polling Interval" section on page 31-4.

- For the Auto-Synchronization with Devices feature, the DCNM-LAN 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**.

- We recommend that you configure automatic purging of event data to ensure that the DCNM-LAN database size does not grow too large.

Configuring Device Auto-Synchronization

This section includes the following topics:

- Starting and Stopping a Poller, page 31-3
- Configuring the Polling Interval, page 31-4
- Synchronizing with a Device, page 31-5
- Deleting Data from the Events Database, page 31-5
- Enabling and Disabling Automatic Event Purging, page 31-6
- Configuring Automatic Event Purge Settings, page 31-7
- Purging Events Now, page 31-8

Starting and Stopping a Poller

You can start and stop a poller for a device. When a poller is stopped, auto-synchronization for the device does not occur.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

A table of pollers appears in the Contents pane. Each row corresponds to a poller for a particular device. Devices are listed alphabetically. The Poller Status field displays messages about whether the poller is running or is stopped.

Step 2   Click to select the poller that you want to start or stop.

Step 3   Do one of the following:

- To start a poller, from the menu bar, choose **Actions > Start Poller**. The Poller Status field changes to Running.

- To stop a poller, from the menu bar, choose **Actions > Stop Poller**. The Poller Status field changes to Stopped.

You do not need to save your changes.

RELATED TOPICS

Configuring the Polling Interval

You can configure how often the DCNM-LAN server synchronizes with managed devices. While synchronizing, the DCNM-LAN server fetches accounting and system logs from managed devices. This setting affects how frequently features in the DCNM-LAN client receive updated information about managed devices.

BEFORE YOU BEGIN

Determine how often you want DCNM-LAN to perform auto-synchronization with managed devices. Consider the following:

- How often device configurations are changed by means other than DCNM-LAN, such as using the command-line interface of a device. If changes by means other than DCNM-LAN are common, consider using a short polling interval.

- How important it is to your organization that DCNM-LAN be up to date with managed device configurations. If up-to-date configuration information is important to your organization, consider using a short polling interval.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

The polling intervals for all devices appear below the table of pollers in the Poller Setting tab.

Step 2   Select the device in the Platform column that you want to work with.

Step 3   In the Polling Interval field, enter the number of seconds between auto-synchronizations for the selected device. The range of polling interval values is displayed when you begin editing the Polling Interval field for the device.

Step 4   From the menu bar, choose **File > Deploy** to save the polling interval.

RELATED TOPICS

- Synchronizing with a Device, page 31-5

Synchronizing with a Device

You can make DCNM-LAN synchronize with a device manually when you do not want to wait for the next auto-synchronization to occur.

✎
Note   If many configuration changes have occurred on the device since the last successful synchronization, consider performing device discovery instead of synchronization.

BEFORE YOU BEGIN

Ensure that you have either configured the device entry with unique device credentials or that DCNM-LAN can use the default device credentials to connect to the device. For more information, see the "Configuring Default Device Credentials" section on page 30-3.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

A table of pollers appears in the Contents pane. Each row corresponds to a poller for a particular device. Devices are listed alphabetically.

Step 2   Click to select the device that you want DCNM-LAN to synchronize with.

Step 3   From the menu bar, choose **Actions > Synchronize with Device**.

Synchronization begins.

To determine when the synchronization has finished, watch the Last Sync Status column. Typically, synchronization with a device occurs in less than 5 minutes.

You do not need to save your changes.

RELATED TOPICS

- Starting and Stopping a Poller, page 31-3
- Configuring the Polling Interval, page 31-4

Deleting Data from the Events Database

You can delete data from the events database based on the exact age of the events. Events that you delete can no longer appear in the Event Browser or on a feature-specific Events tab.

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Tip   If you want to delete events based on the number of events in the database, see the "Purging Events Now" section on page 31-8.

BEFORE YOU BEGIN

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

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

The Events Database Administration tab appears in the Details pane, below the table of pollers.

Step 2   From the Delete events older than drop-down list, choose the date and time of the newest event that you want to delete and click **OK**.

Step 3   Click **Delete**.

DCNM-LAN deletes all events older than the date and time that you specified.

RELATED TOPICS

- Enabling and Disabling Automatic Event Purging, page 31-6
- Configuring Automatic Event Purge Settings, page 31-7
- Purging Events Now, page 31-8

Enabling and Disabling Automatic Event Purging

You can enable or disable the automatic purging of events from the DCNM-LAN events database.

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

The Events Database Administration tab appears in the Details pane, below the table of pollers.

Step 2   Under Auto Purge Settings, do one of the following:

- To enable automatic event purging, check **Enable Auto Purge**.
- To disable automatic event purging, uncheck **Enable Auto Purge**.

Step 3   From the menu bar, choose **File > Deploy** to save your changes to the DCNM-LAN server.

RELATED TOPICS

- Deleting Data from the Events Database, page 31-5
- Configuring Automatic Event Purge Settings, page 31-7
- Purging Events Now, page 31-8

Configuring Automatic Event Purge Settings

You can configure when automatic event purging occurs and the criteria that DCNM-LAN uses to determine which events to purge.

BEFORE YOU BEGIN

Determine when you want automatic event purging to occur. We recommend that automatic event purging occur when DCNM-LAN usage is low.

If you perform backups of your DCNM-LAN databases, consider scheduling automatic event purging after database backups have occurred, to ensure that you retain a record of all events.

Determine what criteria you want DCNM-LAN to use to determine which events to purge. The criteria available are as follows:

- Age of event—DCNM-LAN can purge all events that are older than a specific number of days, weeks, or months.

- Number of events in the database—When the number of events in the database exceeds the maximum number that you specify, DCNM-LAN can purge the oldest events first until the maximum number is not exceeded.

- Severity of event—DCNM-LAN can purge events based on the severity level of the event.

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

DETAILED STEPS

Step 1   From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

The Events Database Administration tab appears in the Details pane, below the table of pollers.

Step 2   Under Purge Threshold, configure the criteria that DCNM-LAN uses to determine which events to purge. You can configure any of the criteria in the following table:

Purge Criteria	How to Configure
Age of events	1. Check **Data older than**. 2. From the first drop-down list, choose the number of days, weeks, or months. 3. From the second drop-down list, choose **Days**, **Weeks**, or **Months**, as needed.
Number of events in the database	1. Check **Total Entries Exceed(0-2147483647)**. 2. In the box, enter the maximum number of entries that you want to allow in the events database.
Severity of event	1. Check **Severity**. The list of eight severity levels becomes available. 2. For each severity level that you want DCNM-LAN to use to determine whether to purge events, check the severity level.

Step 3 Under Auto 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 event purging to occur.

Step 4 (Optional) If you want to enable automatic event purging, check **Enable Auto Purge**.

Step 5 From the menu bar, choose **File > Deploy** to save your changes to the DCNM-LAN server.

RELATED TOPICS

- Deleting Data from the Events Database, page 31-5
- Enabling and Disabling Automatic Event Purging, page 31-6
- Purging Events Now, page 31-8

Purging Events Now

You can purge event data on demand, using the automatic event purge settings to determine which events are purged. Events that you delete can no longer appear in the Event Browser or on a feature-specific Events tab.

Tip If you want to delete events on demand, based on the exact age of the events, see the "Deleting Data from the Events Database" section on page 31-5.

BEFORE YOU BEGIN

Ensure that the automatic event purge settings are configured as needed. For more information, see the "Configuring Automatic Event Purge Settings" section on page 31-7.

DETAILED STEPS

Step 1 From the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

The Events Database Administration tab appears in the Details pane, below the table of pollers.

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

DCNM-LAN deletes events, using the automatic event purge settings to determine which events to purge.

RELATED TOPICS

- Deleting Data from the Events Database, page 31-5
- Enabling and Disabling Automatic Event Purging, page 31-6
- Configuring Automatic Event Purge Settings, page 31-7

Viewing the Status of Auto-Synchronization Pollers

To view the status of an auto-synchronization poller, from the Feature Selector pane, choose **DCNM Server Administration > Auto Synchronization with Devices**.

Poller status and information about the synchronization time and status appear in the Pollers area in the Contents pane.

Table 31-1　　*Auto Synchronization Pollers Information*

Field	Description
Pollers	
Last Refresh Time	*Display only.* Date and time that the DCNM-LAN client updated information shown on the Contents pane.
Device	*Display only.* Name and IP address of the device for the corresponding poller.
Poller Status	*Display only.* Whether the poller is running or stopped. A running poller attempts to synchronize with the configuration and status information from its device at the frequency specified by the Device Polling Interval field.
Last Sync Time	*Display only.* Date and time that the poller last retrieved system and accounting log data from the device.
Last Sync Status	*Display only.* Whether the most recent synchronization attempt succeeded or failed. If synchronization failed, determine why DCNM-LAN failed to connect to the device. If necessary, rediscover the device.

Field Descriptions for Auto Synchronization with Devices

This section includes the following field descriptions for the Auto Synchronization with Devices feature:

- Poller Setting Tab, page 31-9
- Events Database Administration Tab, page 31-10

Poller Setting Tab

Table 31-2　　*Auto Synchronization with Devices Poller Setting Tab*

Field	Description
Pollers	
Polling Interval	Number of seconds that all pollers wait before the next attempt to synchronize with a device. The range of polling interval values is displayed when you begin editing the Polling Interval field for the device.
Device	*Display only.* Name and IP address of the device for the corresponding poller.

Events Database Administration Tab

Table 31-3   Events Database Administration Tab

Field	Description
Delete events older than	Date and time of the newest event to be deleted from the events database. There is no default value for this field.
Purge Threshold	
Data older than	Whether, during automatic event purging, DCNM-LAN deletes events 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 event purging, DCNM-LAN deletes the oldest events until the number of events 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.
Severity	Whether, during automatic event purging, DCNM-LAN deletes events with severity levels that are selected from the list of severity levels. By default, this check box is disabled.
Severity Levels	Severity levels of events that DCNM-LAN deletes during automatic event purging. The severity levels are available only if the Severity check box is checked. By default, all severity levels are disabled. The severity levels are as follows: • Emergency • Alert • Critical • Error • Warning • Notification • Informational • Debugging
Auto Purge Settings	
Enable Auto Purge	Whether automatic purging of event data is enabled. By default, this check box is disabled.
Run on	Days of the week that the automatic purging of events 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 event data occurs, on the days of the week that automatic purging is enabled.

Additional References

For additional information related to administering Auto-Synchronization with Devices, see the following sections:

- Related Documents, page 31-11
- Standards, page 31-11

Related Documents

Related Topic	Document Title
Events	*System Management Configuration Guide, Cisco DCNM for LAN, Release 6.x*
Device discovery	Chapter 29, "Administering Device Discovery"

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 Auto-Synchronization with Devices

Table 31-4 lists the release history for this feature.

Table 31-4   Feature History for Auto-Synchronization with Devices

Feature Name	Releases	Feature Information
Auto-Synchronization with Devices	5.0(2)	No change from Release 4.2.