



Event Analytics, Release 12.2.1

Table of Contents

New and Changed Information	1
Alarms	2
Alarms Raised	2
Alarms Cleared	3
Alarm Policies	4
Create new alarm policy	5
Endpoint Locator Alarms	11
Endpoint Locator: Alarm Policies	11
Endpoint Locator: Active Alarms	12
Endpoint Locator: Cleared Alarms	12
Events	14
Setting Up Events	15
Accounting	19
Remote Clusters	20
Copyright	21

New and Changed Information

The following table provides an overview of the significant changes up to this current release. The table does not provide an exhaustive list of all changes or of the new features up to this release.

Release Version	Feature	Description
There were no major changes from the previous release.		

Alarms

NDFC polls switches every 5 minutes by default and uses CLI commands to poll the switches.

To navigate to the **Alarms** page in Cisco Nexus Dashboard Fabric Controller, choose **Analyze > Event Analytics**. The Alarms tab on the Event Analytics page contains tabs for **Alarms Raised**, **Alarms Cleared** and **Alarm Policies** displaying the alarms generated in the system, the list of alarms cleared and the different alarm policies that are configured for monitoring the devices.

The following sections describe each of these tabs and how to manage the alarms and alarm policies.

Alarms Raised

The **Alarms Raised** tab displays the alarms that are generated for various categories. This tab displays information such as alarm ID, Severity, failure Source, Name, Message, Category, Creation Time, Updated Time, Policy, and the user who acknowledged the alarm. Using the Actions menu, you can acknowledge, unacknowledge, delete or clear one or more of the alarms. It also allows you to cleanup alarms that are invalid.

To get more details for a specific alarm and the policy which triggered this alarm, click on the link in the **ID** field for the respective alarm. The details about the selected alarm appear on the slide-out pane.

The following table describes the fields that appear on **Analyze > Event Analytics > Alarms > Alarms Raised** page.

Field	Description
ID	Specifies the ID of an alarm.
Severity	Specifies the severity of the alarm.
Source	Specifies the name of the source.
Name	Specifies the name of the alarm.
Message	Displays the message.
Category	Specifies the category of the alarm.
Creation Time	Specifies the time at which the alarm was created.
Updated Time	Specifies the date and time at which the alarm was updated.
Policy	Specifies the policy of the alarm.
Ack User	Displays the user who acknowledged the alarm.

The following table describes the action items, in the **Actions** menu drop-down list on the **Alarms Raised** tab.

Action Item	Description
Acknowledge	Choose one or multiple alarms and choose Acknowledge . Allows you to bookmark the alarms and adds ack user name to Acknowledged column.

Action Item	Description
Unacknowledge	Choose one or multiple alarms and choose Unacknowledge to remove the bookmarked alarms. NOTE: Only acknowledged alarms can be unacknowledged.
Clear	Clear the alarm policy manually. The cleared alarms will be moved to Alarm Cleared tab.
Delete Alarm	Choose an alarm and choose Delete to delete the alarm.
Invalid Alarms Clean-up	Removes all the discovery related invalid alarms in the system. The cleared alarms will be moved to the Alarms Cleared tab.



For link-down events related to interface alarms, you must configure the switches to send SNMP traps to NDFC. Otherwise, the port state change can only be done through polling, which is every 5 minutes.

Alarms Cleared

The **Alarms Cleared** tab displays the list of alarms which are cleared in the **Alarms Raised** tab. This tab displays information such as alarm ID, status, failure source, name, message, category, creation time, cleared time, cleared by, policy, and the name of the user who has acknowledged the alarm. You can view the cleared alarm details for a maximum of 90 days.

The following table describes the fields that appear on **Analyze > Event Analytics > Alarms > Alarms Cleared** page.

Field	Description
ID	Specifies the ID of an alarm.
Status	Indicates the status of the alarm.
Source	Specifies the IP Address of source alarm.
Name	Specifies the name of the alarm.
Message	Specifies the CPU utilization and other details of alarm.
Category	Specifies the category of the alarm.
Creation Time	Specifies the time at which the alarm was created.
Cleared Time	Specifies the time at which the alarm was cleared.
Cleared By	Specifies the user who cleared the alarm.
Policy	Specifies the policy of the alarm.
Ack User	Specifies the acknowledged user role name.

The following table describes the action items, in the **Actions** menu drop-down list, that appear on **Alarms Cleared** tab.

Action Item	Description
Delete Alarm	<p>Select one or more alarms and choose Action > Delete to delete the cleared alarms.</p> <p>Note that you cannot recover a deleted alarm.</p>

Alarm Policies

In Cisco Nexus Dashboard Fabric Controller to enable alarms, navigate to **Analyze > Event Analytics > Alarms**, click **Alarm Policies** on vertical tab. Ensure that the **Enable external alarms** check box is selected. You must restart Cisco Nexus Dashboard Fabric Controller server to bring this into effect.

You can forward alarms to registered SNMP Listeners in Cisco Nexus Dashboard Fabric Controller. From Cisco Nexus Dashboard Fabric Controller web UI, choose **Admin > System Settings > Server Settings > Alarms**, ensure that the **Enable external alarms** check box is selected. You must restart Cisco Nexus Dashboard Fabric Controller server to bring this into effect.




Ensure that you select the **Forwarding** check box in the **Alarm Policy creation** dialog box to enable forwarding alarms to an external SNMP listener.

The following table describes the fields that appear on the **Analyze > Event Analytics > Alarms > Alarms Policies** page.

Field	Description
Name	Specifies the name of the alarm policy.
Description	Specifies the description of the alarm policy.
Status	<p>Specifies the status of the alarm policy:</p> <ul style="list-style-type: none"> Activated Deactivated
Policy type	<p>Specifies the type of the policy:</p> <ul style="list-style-type: none"> Device Health Policy Interface Health Policy Syslog Alarm Policy Hardware Health Policy
Devices	Specifies the devices to which the alarm policy is applied.
Details	Specifies the details of the policy.

The following table describes the action items, in the **Actions** menu drop-down list that appear on the **Alarms Policies** page.

Action Item	Description
Create new alarm policy	Choose to create a new alarm policy. See Create new alarm policy section.

Action Item	Description
Edit	Select a policy and choose Edit to edit the alarm policy.
Delete	Select a policy and choose Delete to delete the alarm policy.
Activate	Select a policy and choose Activate to activate and apply the alarm policy.
Deactivate	Select a policy and choose Deactivate to disable and deactivate the alarm policy.
Import	<p>Select to import alarm policies from a .txt file.</p> <div>  <p>Beginning with the NDFC 12.2.1 release, you can import alarm policies from a .txt file using the Import Policy dialog box from the Actions > Import drop-down list.</p> </div>
Export	<ul style="list-style-type: none"> Click the box next to a specific alarm policy, then click Export to export that alarm policy as a .txt file. Select or deselect all the boxes next to the alarm policies, then click Export to export all the alarm policies as a .txt file.

You can create alarm policies for the following policy types:

- **Device Health Policy:** Device health policies enable you to create alarms when device SNMP, SSH or ICMP is unreachable. It also raises alarms when the device peripherals become unavailable. Also, these policies enable you to monitor chassis temperature, CPU, memory usage and the status of routing protocols in the device.
- **Interface Health Policy:** Interface health policies enable you to monitor Up or Down, Packet Discard, Error, Bandwidth details of the interfaces. By default, all interfaces are selected for monitoring.
- **Syslog Alarm Policy:** Syslog Alarm Policy defines a pair of syslog message formats; one which raises the alarm, and one which clears the alarm.
- **Hardware Health Policy:** Hardware health policies enable you to monitor fans, power supplies, modules and also interface status.

Create new alarm policy

You can add alarm policies for the following:

- Device Health Policy
- Interface Health Policy
- Syslog Alarm Policy
- Hardware Health Policy

After you create a new alarm policy, in the **Alarm Policies** tab, click **Refresh** to view the newly-created alarm policy.

Device Health Policy

Device health policies enable you to create alarms when certain conditions are met. By default, all devices are selected for monitoring.

- **Policy Name:** Specify a name for the policy. It must be unique.
- **Description:** Specify a brief description for the policy.
- **Forwarding:** You can forward alarms to registered SNMP listeners in Cisco Nexus Dashboard Fabric Controller . From the Web UI, choose **Admin > System Settings > Server Settings > Events**.



Ensure that you select Forwarding check box while configuring alarm policies to forward alarms to an external SNMP listener.

- **Email:** You can forward alarm event emails to recipients when an alarm is created, cleared or when the severity is changed. From Cisco Nexus Dashboard Fabric Controller Web UI, choose **Admin > System Settings > Server Settings > Events**. Configure the SMTP parameters, click **Save**, and restart Cisco Nexus Dashboard Fabric Controller services.
- Specify the CPU utilization parameters, memory utilization parameters, and environmental temperature parameters.
- **Device Availability:** Device health policies enable you to create alarms in the following situations:
 - **Device Access:** When device ICMP, device SNMP, or device SSH is unreachable.
 - **Peripherals:** When fan, power supply, or module is unreachable.
- **Device Feature:** You can select the BFD, BGP, and HSRP protocols. When these check boxes are selected, alarms are triggered for the following traps:
 - **BFD:** ciscoBfdSessDown, ciscoBfdSessUp
 - **BGP:** bgpEstablishedNotification, bgpBackwardTransNotification, cbgpPeer2BackwardTransition (), c*bgpPeer2EstablishedNotification
- **HSRP:** cHsrpStateChange

For detailed trap OID definitions, refer to <https://snmp.cloudapps.cisco.com/Support/SNMP/do/BrowseOID.do>.

Also, these policies enable you to monitor chassis temperature, CPU, and memory usage.

Select the devices for which you want to create policies. Specify the policy name, description, CPU Utilization parameters, Memory Utilization parameters, Environment Temperature parameters, device availability, and device features.

Interface Health Policy

Interface health policies enable you to monitor the interface status, packet discards, errors and bandwidth details of the interfaces. By default, all interfaces are selected for monitoring.

Select the devices for which you want to create policies and then specify the following parameters:

- **Policy Name:** Specify a name for the policy. It must be unique.
- **Description:** Specify a brief description for the policy.
- **Forwarding:** You can forward alarms to registered SNMP listeners in Cisco Nexus Dashboard Fabric Controller by configuring sender and recipient email addresses in **Admin > System Settings > Server Settings > Alarms** tab.



Ensure that you select **Forwarding** check box while configuring alarm policies to forward alarms to an external SNMP listener.

- **Email:** You can forward alarm event emails to recipients when an alarm is created, cleared or when the severity is changed. From Cisco Nexus Dashboard Fabric Controller Web UI, navigate to **Admin > System Settings > Server Settings > SMTP**, configure the SMTP parameters and restart Cisco Nexus Dashboard Fabric Controller services.
- **Linkstate:** Choose linkstate option to check for the interface link status. You can generate an alarm whenever a link is down and clear the alarms when the link is up.
- **Bandwidth (In/Out):** Allows you to set the maximum bandwidth allowed in inbound and outbound directions. The system generates alarms when the bandwidth exceeds the specified values.
- **Inbound Errors:** Allows you to set thresholds for the number of inbound errors that are discarded after which it generates an alarm.
- **Outbound Errors:** Allows you to set thresholds for the number of outbound errors that are discarded after which it generates an alarm.
- **Inbound Discards:** Allows you to set thresholds for the number of inbound packets that are discarded after which it generates an alarm.
- **Outbound Discards:** Allows you to set thresholds for the number of outbound packets that are discarded after which it generates an alarm.

Syslog Alarm

Syslog Alarm Policy defines a pair of Syslog messages formats; one which raises the alarm, and one which clears the alarm.

Select the devices for which you want to create policies and then specify the following parameters:

- **Devices:** Define the scope of this policy. Select individual devices or all devices to apply this policy.
- **Policy Name:** Specify the name for this policy. It must be unique.
- **Description:** Specify a brief description for this policy.
- **Forwarding:** You can forward alarms to registered SNMP listeners in Cisco Nexus Dashboard Fabric Controller . From Web UI, choose **Admin > System Settings > Server Settings > Events**.



Ensure that you select **Forwarding** check box in Alarm Policy creation dialog window to enable forwarding alarms to external SNMP listener.

- **Email:** You can forward alarm event emails to recipient when alarm is created, cleared or severity changed. From Cisco Nexus Dashboard Fabric Controller Web UI, choose **Admin > System Settings > Server Settings > Events**. Configure the SMTP parameters, click **Save**, and restart Cisco Nexus Dashboard Fabric Controller services.
- **Severity:** Define the severity level for this syslog alarm policy. Choices are: Critical, Major, Minor, and Warning.
- **Identifier:** Specify the identifier portions of the raise & clear messages.
- **syslogRaise:** Define the format of a syslog raise message. The syntax is as follows: Facility-Severity-Type: Message

- **syslogClear:** Define the format of a syslog clear message. The syntax is as follows: Facility-Severity-Type: Message

The Regex definitions are simple expressions but not a complete regex. Variable regions of text are noted using \$(LABEL) syntax. Each label represents a regex capture group (.), which corresponds to one or more characters. The variable texts found in both raise and clear messages are used to associate the two messages. An Identifier is a sequence of one or more labels that appear in both messages. An Identifier is used to match a clear syslog message to the syslog message that raised the alarm. If the text appears only in one of the messages, it can be noted with a label and exclude it from the identifier.

Example: A policy with "Value": "ID1-ID2",

```
"syslogRaise": "SVC-5-DOWN: $(ID1) module $(ID2) is down $(REASON)"
"syslogClear": "SVC-5-UP: $(ID1) module $(ID2) is up."
```

In the example, ID1 and ID2 labels can be marked as an identifier to find the alarm. This identifier will be found in corresponding syslog messages. Label "REASON" is in the raise but not in the clear message. This label can be excluded from the identifier, as it has no impact on the syslog message to clear the alarm.

Table 1. Example 1

Identifier	ID1-ID2
Raise Regex	ETHPORT-5-IF_ADMIN_UP: Interface Ethernet15/1 is admin up .
Clear Regex	ETHPORT-5-IF_DOWN_NONE: Interface Ethernet15/1 is down (Transceiver Absent)

In the above example, the regex expressions are part of the syslog messages that appear in the terminal monitor.

Table 2. Example 2

Identifier	ID1-ID2
Raise Regex	ETH_PORT_CHANNEL-5-PORT_DOWN: \$(ID1): \$(ID2) is down
Clear Regex	ETH_PORT_CHANNEL-5-PORT_UP: \$(ID1): \$(ID2) is up

Table 3. Example 3:

Identifier	ID1-ID2
Raise Regex	ETHPORT-5-IF_SFP_WARNING: Interface \$(ID1), High Rx Power Warning
Clear Regex	ETHPORT-5-IF_SFP_WARNING: Interface \$(ID1), High Rx Power Warning cleared

Hardware Health Policy

The hardware health policy is used to raise hardware-related alarms for different parameters, such as fan status, power supply, modular status and all interface-related alarms.

By default, there is a hardware policy called as discovery that is standard with the NDFC installation. This hardware policy defines various conditions for different parameters. You can also create custom hardware policies for the parameters listed above and define regex expressions based on which alarms are raised.

By default, the **All Devices** option is selected automatically.

- **Policy Name:** Specify a name for the policy. It must be unique.
- **Description:** Specify a brief description for the policy.
- **Forwarding:** You can forward alarms to registered SNMP listeners in Cisco Nexus Dashboard Fabric Controller. From the Web UI, choose **Admin > System Settings > Server Settings > Events**.



Ensure that you select Forwarding check box while configuring alarm policies to forward alarms to an external SNMP listener.

- **Email:** You can forward alarm event emails to recipients when an alarm is created, cleared or when the severity is changed. From Cisco Nexus Dashboard Fabric Controller Web UI, choose SettingsServer SettingsEvents. Configure the SMTP parameters, click Save, and restart Cisco Nexus Dashboard Fabric Controller services.

Hardware alarms are raised based on regex expressions that you enter when you are creating the policy.

In the **Alarms** area, create a hardware health policy to raise alarms for the following parameters:

- **Fan:** Define the severity for fan-related alarms and determine the condition for the alarms.
 1. Click the toggle switch next to **Fan** to enable the fan-related alarms.
 2. Select the severity of the alarm:
 - Critical
 - Major
 - Minor
 - Warning
 - Cleared
 3. Click **Edit Regex**, then enter the value that will trigger the alarm when the status is not that value.

For example, if you enter ok in the **Trigger alarm when status is not** field, NDFC will raise an alarm for any status other than ok, such as N/A.

4. Click **Save**.

- **Power Supply:** Define the severity for power supply-related alarms and determine the condition for the alarms.
 1. Click the toggle switch next to **Power Supply** to enable the power supply-related alarms.
 2. Select the severity of the alarm:
 - Critical

- Major
- Minor
- Warning
- Cleared

3. Click **Edit Regex**, then enter the value that will trigger the alarm when the status is not that value.

For example, if you enter ok in the **Trigger alarm when status is not** field, NDFC will raise an alarm for any status other than ok, such as failed, OffEnvpower, OffDenied, and so on.

4. Click Save.

- **Module:** Define the severity for module-related alarms and determine the condition for the alarms.

1. Click the toggle switch next to **Module** to enable the module-related alarms.
2. Select the severity of the alarm:

- Critical
- Major
- Minor
- Warning
- Cleared

3. Click **Edit Regex**, then enter the value that will trigger the alarm when the status matches that value.

For example, if you were to enter the following value in the **Trigger alarm when status matches regex** field, as shown in the information (i) button:

```
^(?!ok|poweredDown|okButDiagFailed).*$
```

NDFC will raise an alarm when modules are in states other than ok, poweredDown, and OkButDiag failed.

4. Click Save.

- **Interface Status:** Define the severity for interface-related alarms and determine the condition for the alarms.

1. Click the toggle switch next to Interface Status to enable the interface-related alarms.
2. Click one or more toggle switches next to the appropriate severity to select the severity of the alarm:

- Critical
- Major
- Minor
- Warning
- Cleared

3. Click **Edit Regex**, then enter the value that will trigger the alarm when the status matches that value. The provided regex expression is matched against the combined field of **admin_status:oper_status:status_reason**.

For example, if you were to enter the following value in the **Trigger alarm when status matches regex** field:

```
^up:down:(?!Link not connected|XCVR not inserted|sfpNotPresent|Channel admin down).*$
```

NDFC will raise an alarm when interfaces are in states that match these values.

4. Click Save.

Endpoint Locator Alarms

Alarms are registered and created under the External alarm category by the Endpoint Locator (EPL).

Endpoint Locator: Alarm Policies

The EPL external alarm category policy is activated when EPL is enabled on a fabric. Alarms are raised for issues such as Duplicate IP addresses, Duplicate MAC addresses, Endpoints appearing on a VRF and Endpoints disappearing from a VRF, Endpoints moving within a fabric, loss of Route Reflector connectivity, and restoration of Route Reflector connectivity. Depending on the issue, the severity level of the alarm policy can be CRITICAL or MINOR.

Alarms are raised and categorized as CRITICAL for the following events:

- Route Reflector disconnection
- Detection of a duplicate IP address
- Detection of a duplicate MAC address

Alarms are raised and categorized as MINOR for the following events:

- Movement of an endpoint
- Appearance of a new VRF in a fabric
- Number of endpoints in a fabric goes down to 0
- Number of endpoints in a VRF goes down to 0
- Disappearance of all endpoints from a switch
- Connection of a Route Reflector (RR)

CRITICAL alarms are cleared automatically when the condition is corrected. For example, when the connectivity between NDFC and RR is lost, a CRITICAL alarm is generated. This alarm is automatically cleared when the connectivity between NDFC and RR is restored. Other MINOR alarms are automatically cleared after 30 minutes have passed since the alarm was generated.



You must clear the duplicate MAC and duplicate IP alarms after the condition is

resolved.

Choose **Event Analytics > Alarms > Alarm Policies** to display the EPL alarm policies. You cannot edit the alarm policies on the web UI.

Choose **Actions > Activate** or **Deactivate** to activate or deactivate the selected policy.

In case an alarm policy is deleted using the NDFC Web UI, any alarms created or cleared for that policy will not be displayed in the **Event Analytics > Alarms > Alarm Policies** tab. To delete a policy, select the checkbox next to the policy and click **Delete**. However, we recommend not deleting a policy from the NDFC Web UI. When a fabric is deleted, the alarm policy along with all the active alarms for the devices in that fabric are deleted.

Endpoint Locator: Active Alarms

Choose **Event Analytics > Alarms > Alarms Raised** to display the active alarms.

To clear an active alarm, select the checkbox next to the alarm and choose **Actions > Clear**.

Operations > Event Analytics

Event Analytics Refresh

Alarms Events Accounting Remote Clusters

Alarms Raised Alarms Cleared Alarm Policies

Filter by attributes Actions ^

ID	Severity	Source	Name	Message	Cat	
<input checked="" type="checkbox"/> 330	Minor	172.25.18.69	POAP-LEAF-2	Power Supply powersupply-2 updated(471) in undesired state offEnvPower	HW	
<input type="checkbox"/> 320	Minor	172.25.18.69	POAP-LEAF-2	Interface ethernet1/3 in undesired state up:down:Link not connected	INT	
<input type="checkbox"/> 310	Minor	172.25.18.69	POAP-LEAF-2	Interface ethernet1/7 in undesired state up:down:Link not connected	INTERFACE_STATUS	Jul 24
<input type="checkbox"/> 300	Minor	172.25.18.69	POAP-LEAF-2	Interface ethernet1/24 in undesired state up:down:Link not connected	INTERFACE_STATUS	Jul 24
<input type="checkbox"/> 280	Warning	cat9k-fab10	Fabric->Fabric_Template~fabricInit:cat9k-fab10	DCI subnet range duplicate with fabric: ecl-ospf	EXTERNAL	Jul 23
			Fabric-			

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To delete an active alarm, select the checkbox next to the alarm and choose **Actions > Delete**.

Endpoint Locator: Cleared Alarms

To view cleared alarms, choose **Event Analytics > Alarms > Alarms Cleared**.

Click on the **Cleared** status column for any particular alarm to display detailed information about the selected alarm.

Fabric Controller
Alarm ID
290

Operations > Event Analytics

Event Analytics

Alarms
Events
Accounting
Remote Clusters

Alarms Raised
Alarms Cleared
Alarm Policies

Filter by attributes

ID	Status	Source	Name	Message
<input type="checkbox"/> 340	Cleared	easy1	Fabric->Fabric_Template~postAdd:switchCleanupWithoutReload:FDO20350MFK:SSH	Switch [POAP-LEAF-2/FDO20350MFK SSH connection for switch cleanup. Please Recalculate & Deploy
<input type="checkbox"/> 290	Cleared	easy1	Fabric->Fabric_Template~fabricInit:easy1	VRF Lite Subnet IP Range duplicate with fabric: cat9k-fab10
<input type="checkbox"/> 240	Cleared	172.28.10.25	n9k-25gx	Interface ethernet1/4 in undesired state
<input type="checkbox"/> 220	Cleared	172.28.10.26	n9k-26gx	Interface ethernet1/4 in undesired state
<input type="checkbox"/> 190	Cleared	172.28.10.24	n9k-24gx	Interface ethernet1/1 in undesired state

Source
easy1

Name
Fabric->Fabric_Template~fabricInit:easy1

Description
VRF Lite Subnet IP Range duplicate with fabric: cat9k-fab10

Acknowledged by
-

Updated Time
Jul 24 2023, 01:11:00

Cleared by
system

Policy
lan_fabric_errors

Creation Time
Jul 24 2023, 01:11:00

Category
EXTERNAL

Cleared Time
Jul 24 2023, 01:29:08

History

Severity	Source	Time
WARNING	EXTERNAL	Jul 24 2023, 01:11:00
CLEARED	USER_CLEAR	Jul 24 2023, 01:29:08

Events

This tab displays the events that are generated for the switches. This tab displays information such as Ack, Acknowledged user, Group, Switch, Severity, Facility, Type, Count, Last Seen, and Description. You can select one or more events and then acknowledge or unacknowledge their status using the Change Status drop-down list. In addition, you can select one or more alarms and then click the Delete button to delete them. If you want to delete all events, click the Delete All button.

The following table describes the fields that appear on **Analyze > Event Analytics > Events**.

Field	Description
Group	Specifies the Fabric
Switch	Specifies the hostname of the switch
Severity	Specifies the severity of the event
Facility	Specifies the process that creates the events. The event facility includes two categories: NDFC and syslog facility. Nexus Dashboard Fabric Controller facility represents events generated by Nexus Dashboard Fabric Controller internal services and SNMP traps generated by switches. Syslog facility represents the machine process that created the syslog messages.
Type	Specifies how the switch/fabric are managed
Count	Specifies the number of times the event has occurred
Creation Time	Specifies the time when the event was created
Last Seen	Specifies the time when the event was run last
Description	Specifies the description provided for the event
Ack	Specifies if the event is acknowledged or not

The following table describes the action items, in the **Actions** menu drop-down list, that appear on **Analyze > Event Analytics > Events**.

Action Item	Description
Acknowledge	Select one or more events from the table and choose Acknowledge icon to acknowledge the event information for the fabric. After you acknowledge the event for a fabric, the acknowledge icon is displayed in the Ack column next to the Group.
Unacknowledge	Select one or more events from the table and choose Unacknowledge icon to acknowledge the event information for the fabric.

Action Item	Description
Delete	Select an event and choose *Delete*to delete the event.
Add Suppressor	Select an event and choose Add Suppressor to add a rule to the event. You can provide name to the rule. Using the Scope options, you can add this rule to all the Fabrics, or particular elements or all elements.
Event Setup	Allows you to set up new events. For more information, see Setting Up Events .

Setting Up Events

To setup an event using the Cisco Nexus Dashboard Fabric Controller Web UI, perform the following steps:

1. Choose **Analyze > Event Analytics** and click on the **Events** tab.
2. From the **Actions** drop-down list, select **Event Setup**. The **Receiver** tab displays the following details:
 - **Syslog Receiver enabled**: Displays the status of the syslog server.
 - **SNMP Trap Receiver**: Displays the details of SNMP traps received, processed and dropped.
 - **Syslog Receiver**: Displays the details of syslog messages received, processed and dropped.



SMTP servers with Start Transport Layer Security (STARTTLS) are not supported.

3. Navigate to the **Sources** tab, to view a list of fabrics and its associated switches. The **Sources** tab displays all the fabrics and the associated switches in tabular format. It also displays if traps and syslogs have been configured on the switches.
4. Perform the following steps to create rules for forwarding email notifications or traps for events:

Cisco Nexus Dashboard Fabric Controller Web UI forwards fabric events through email or SNMPv1 or SNMPv2c traps. Some SMTP servers may require adding authentication parameters to the emails that are sent from Nexus Dashboard Fabric Controller to the SMTP servers.

- a. Ensure that you have configured SMTP parameters before configuring rules for forwarding event notifications through emails. To verify SMTP configuration, navigate to **Admin > System Settings > Server Settings > SMTP** and verify that you have configured the required fields.
- b. To enable events forwarding, choose **Admin > System Settings > Server Settings > Events** and configure the fields as described in the following table.

Table 4. Configure Events Forwarding

Field	Description
Enable Event forwarding	Check the checkbox to enable events forwarding feature.

Field	Description
Email Forwarding From Email List	Specifies the email address from which the forwarding messages arrive.
Snooze Event Forwarding	Snoozes an event from forwarding for the given time range.
Maximum Number of Repeats in Event Forwarding	Stops forwarding an event after the specified time. 0 indicates unlimited time.
Maximum Number in Events/Traps/Syslog Queue	Specifies the maximum number in the queue before dropping the incoming events/traps/syslog.

- c. To configure rules, choose **Analyze > Event Analytics**.
- d. Navigate to the **Forwarding** tab and choose **Actions > Add Rule** and configure the fields as described in the following table.

Table 5. Configure Rules

Field	Description
Forwarding Method	Choose one of the forwarding methods: <ul style="list-style-type: none"> • E-Mail • Trap
Email Address	This field appears if you select E-mail as the forwarding method. Enter an email address for forwarding the event notifications.
Address	This field appears if you select Trap as the forwarding method. Enter the IP address of the SNMP trap receiver. You can either enter an IPv4 or IPv6 address or a DNS server name.
Port	Enter the port to which the traps are forwarded.
Forwarding Scope	Maximum number in queue before dropping the incoming events/traps/syslog messages.
Fabric	Select All Fabrics or a specific fabric for notification.

Field	Description
Source	<p>Select DCNM or Syslog. If you select DCNM, do the following:</p> <ol style="list-style-type: none"> 1. From the Type drop-down list, choose an event type. 2. Check the Storage Ports Only check box to select only the storage ports. This check box is enabled only for port related events. <p>If you select Syslog, do the following:</p> <ol style="list-style-type: none"> 1. In the Facility list, select the syslog facility. 2. In the Type field, enter the syslog type. 3. In the Description Regex field, enter a description that matches with the event description.

- e. From the **Minimum Severity** drop-down list, select the severity level of the messages to receive.

The traps that are transmitted by Cisco Nexus Dashboard Fabric Controller correspond to the severity type. A text description is also provided with the severity type.

```
trap type(s) = 40990 (emergency)
40991 (alert)
40992 (critical)
40993 (error)
40994 (warning)
40995 (notice)
40996 (info)
40997 (debug)
textDescriptionOid = 1, 3, 6, 1, 4, 1, 9, 9, 40999, 1, 1, 3, 0
```

- f. Click **Add Rule**.

5. Perform the following steps to create rules for suppressing events:

Nexus Dashboard Fabric Controller allows you to suppress specified events based on user-specified rules. Such events will not be displayed on the Nexus Dashboard Fabric Controller Web UI and SAN Client. The events will neither be added to the Nexus Dashboard Fabric Controller database, nor forwarded via email or as SNMP traps.

You can view, add, modify, and delete rules from the table. You can create a rule from the existing events. Select an existing event as the template and open the **Add Rule** window by navigating to **Analyze > Event Analytics > Events** page, select the event and choose **Actions > Add**

Suppressor. The details are automatically ported from the selected event in the events table to the fields of the **Add Rule** window.

- a. In the **Name** field, enter a name for the rule.
- b. In the **Scope** field, select one of the following options – **SAN**, **Port Groups** or **Any**.

In the **Scope** field, the LAN/SAN groups and the port groups are listed separately. For SAN and LAN, select the scope of the event at the fabric or group or switch level. You can only select groups for port group scope. If use select **Any** as the scope, the suppression rule is applied globally.

- c. In the **Facility** field, enter the name or choose from the SAN/LAN switch event facility list.

If you do not specify a facility, a wildcard is applied.

- d. In the **Type** field, enter the event type.

If you do not specify the event type, wildcard is applied.

- e. In the **Description Matching** field, specify a matching string or regular expression.

The rule matching engine uses regular expression that is supported by Java Pattern class to find a match against an event description text.

- f. Check the **Active Between** check box and select a valid time range during which the event is suppressed.

By default, the time range is not enabled.



In general, you must not suppress accounting events. Suppression rule for Accounting events can be created only for certain situations where accounting events are generated by actions of Nexus Dashboard Fabric Controller or switch software. For example, 'sync-snmp-password' AAA syslog events are automatically generated during the password synchronization between Nexus Dashboard Fabric Controller and managed switches. To suppress accounting events, navigate to **Analyze > Event Analytics > Events** page, select the event and choose **Actions > Add Suppressor**.

- g. Click **Add Rule**.

Accounting

You can view the accounting information on Cisco Nexus Dashboard Fabric Controller Web UI.

The following table describes the fields that appear on **Analyze > Event Analytics > Accounting**.

Field	Description
Source	Specifies the source
User Name	Specifies the user name.
Time	Specifies the time when the event was created
Description	Displays the description.
Group	Specifies the name of the group.

The following table describes the action items, in the **Actions** menu drop-down list, that appear on **Analyze > Event Analytics > Accounting**.

Action Item	Description
Delete	Select a row and choose Delete to delete accounting information from the list.

Remote Clusters

This tab displays the clusters and the number of Fabrics in each cluster in your setup.

Click on the Cluster Name to see the summary information. You can click on the launch icon to view the detailed summary of the Cluster.

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