



## Configure Alerts

---

Alerts in Secure Workload help you monitor workload security and respond to potential threats. The various components of alerts work together to provide visibility, alert sources and configuration, and the ability to send alerts from publishers. You can configure alerts, view alerts trigger rules, and choose publishers to send alerts. Alerts that are displayed on the configuration page vary depending on the user's role. Alert publishers can be either Alerts or Notifiers.

Table 1: Feature Information

Feature Name	Release	Feature Description	Where to Find
Alert Enhancements	3.9	<p>On the <b>Investigate &gt; Alerts</b> page. Other enhancements include:</p> <ul style="list-style-type: none"> <li>• Introduction of Alert Name field: A new field, <b>Alert Name</b>, is introduced to facilitate a structured approach to alert management, allowing you to assign unique names to alerts.</li> <li>• Introduction of drop-down for <b>Alert Type</b>: A new drop-down, <b>Alert Type</b>, is introduced in the <b>Alerts – Configs</b> page to facilitate quick filtering.</li> <li>• Icon Update: The configuration of alerts can now be initiated by selecting the new + icon on the <b>Alerts – Configs</b> page.</li> </ul>	<a href="#">Alert Configuration Modal, on page 6</a>
		Multisearch capabilities with enhanced filtering options for alerts.	<a href="#">Current Alerts, on page 15</a>



**Note** From the Secure Workload 3.0 release, the Secure WorkloadApp Store does not support alerts and compliance apps. You can configure alerts and the compliance alerts on this page without creating an Alert Application instance or Compliance Application instance.

- [Alert Types and Publishers, on page 3](#)
- [Create Alerts, on page 4](#)
- [Alert Configuration Modal, on page 6](#)
- [Generate Test Alerts, on page 13](#)
- [Current Alerts, on page 15](#)

- [Alert Details, on page 17](#)

## Alert Types and Publishers

Alerts in Secure Workload consist of the following components:

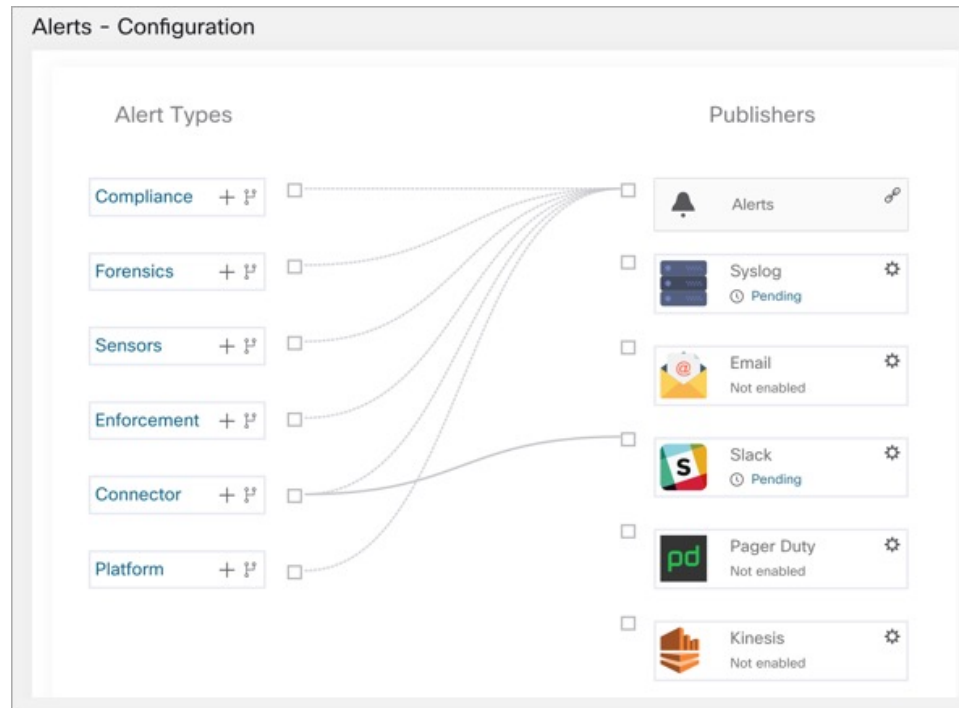
- **Alert Visibility**
  - **Current Alerts:** From the navigation pane, choose **Investigate > Alerts**. Preview of alerts is sent to a Data Tap.

**Figure 1: Current Alerts**

Event Time	Alert Name	Status	Alert Text	Severity	Type	Actions
Nov 9, 4:55 PM	ISE-Connector-Alert	ACTIVE	Missing ISE heartbeats, it might be down	HIGH	CONNECTOR	2 <sup>2</sup> 🚩
Nov 9, 4:55 PM	Syslog-Connector-Alert	ACTIVE	Missing Syslog heartbeats, it might be down	HIGH	CONNECTOR	2 <sup>2</sup> 🚩
Nov 9, 4:55 PM	Slack-Connector-Alert	ACTIVE	Missing Slack heartbeats, it might be down	HIGH	CONNECTOR	2 <sup>2</sup> 🚩
Nov 9, 4:55 PM	ServiceNow-Connector-Alert	ACTIVE	Missing ServiceNow heartbeats, it might be down	HIGH	CONNECTOR	2 <sup>2</sup> 🚩
Nov 9, 4:55 PM	Edge Appliance-Appliance-Down-Alert	ACTIVE	Missing Edge Appliance heartbeats, it might be down	HIGH	CONNECTOR	2 <sup>2</sup> 🚩

- **Alert Sources and Configuration:**
  - **Alerts - Configuration:** Choose **Manage > Alerts Configs**. Both alert configurations that are configured using the common modal and alert publisher, and notifier settings are displayed.

Figure 2: Alerts - Configuration



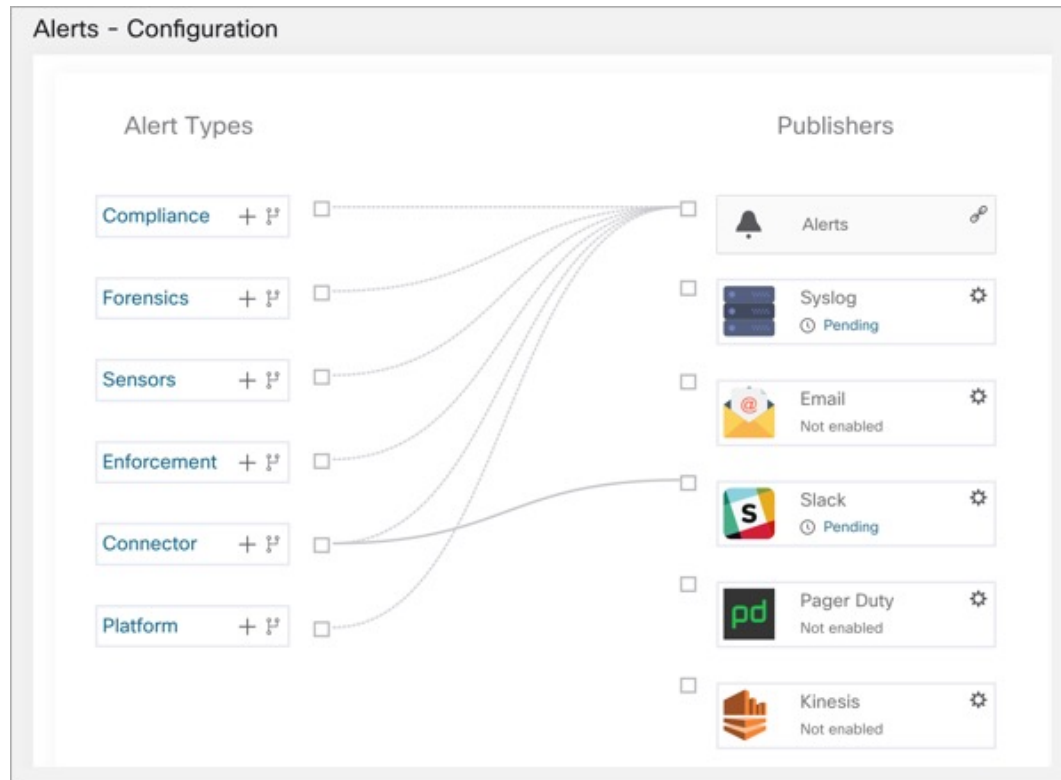
- **Send Alerts:**

- **Alerts App:** An implicit Secure Workload app that sends generated alerts to a configured Data Tap. The Alerts App handles features such as **Snooze** and **Mute**.
- **Alerts Publisher:** Limits the number of alerts that are displayed and pushes alerts to Kafka (MDT or DataTap) for external consumption.
- **Edge Appliance:** Pushes alerts to other systems such as Slack, PagerDuty, Email, and so on.

## Create Alerts

From the navigation pane, choose **Alerts > Configuration** to configure the following alert types:

Figure 3: Create an Alert



- **Enforcement Alerts**

- Agent Reachability
- Workload Firewall
- Workload Policy

- **Sensor Alerts**

- Agent Upgrade
- Agent Flow Export
- Agent Check In
- Agent Memory Usage
- Agent CPU Quota
- Amount Of Flow Observations
- New Agent Registered
- Pcap Status
- Agent Uninstalled
- Not Recommended Cipher

- Deprecated TLS Version
- Agent Auto Removal
- **Compliance Alerts**
  - Enforcement Policy
  - Live Analysis Policy

**Note**

- Alert trigger rules are enforced on the currently selected root scope for the Enforcement and Sensors alert types.
- You must have an enforced capability on the currently selected scope to create an alert trigger rule for the Compliance alert type.

The following Alert Types do not have a configuration modal:

- Forensics
- Connectors
- Federation
- Admiral
- Traffic

**Traffic Alerts**

You can create **Traffic** alerts to be notified when workloads communicate with known malicious IPv4 addresses. By default, the option to detect malicious addresses are disabled. To enable, see [Visibility of Well-Known Malicious IPv4 Addresses](#). The available alert conditions are:

- `Malicious flows are Observed`: Communication to the known malicious IPv4 addresses is observed.
- `Malicious flows are Permitted`: After the policy analysis and enforcement, this condition notifies about the malicious flows which are permitted.
- `Malicious flows are Rejected`: After the policy analysis and enforcement, this condition notifies about the malicious flows which are rejected.

## Alert Configuration Modal

The Alert configuration modal consists of the following sections:

- The **Alert Name**
- The **Alert Types**
- The *subject* of an alert. The subject depends on the app, and may be prepopulated when the alert modal is contextual.

- The **Alert Condition** on which an alert is triggered. Hover over the **info** icon to view a list of available conditions.
- If there are several alerts that are generated, alerts with higher *Severity* are displayed preferentially over alerts with lower severity.
- Click **Show Advanced Settings** for more configuration options.



#### Note

- Upon completion of the upgrade, all existing alert configuration rules in the current tenants are assigned with an **Alert Name** based on the predefined format. In instances where the Alert Name is absent, the format to be employed is *Alert\_SubType\_{DatabaseID}*. For example, *Workload\_Firewall\_64bf9b8493dfc94ca0095718*.
- Following deployment or upgrade, all default alert configuration rules—those created during the inception of a new tenant—are assigned with an **Alert Name** in the predefined format: *Alert\_SubType*. For example, *Upgrade\_Status*.

**Figure 4: Configure Alerts**

## Summary Alerts

Summary Alerts are allowed for some applications and configuration options depend on the application.

- **Individual Alerts** refers to alerts that are generated over non-aggregated (or minimally aggregated) information and are likely to have a time range of one minute. Note that this does not necessarily mean the alerts are actually generated and sent at a minute interval; the individual alerts can still be generated at the *App Frequency* interval.

- **Summary Alerts** refers to alerts generated over metrics produced over an hour or to the summarization of less frequent alerts.

App	App Frequency1	Individual Alerts	Hourly Alerts	Daily Alerts
Compliance	Minute	Yes: at app frequency	Summary of Individual	Summary of Individual
Enforcement	Minute	Yes: at app frequency	Summary of Individual	Summary of Individual
Sensors	Minute	Yes: at app frequency	Summary of Individual	Summary of Individual



**Note** The Event Time of summary alerts represents the first occurrence of the same type alert over the past hour or a specified interval window.

## Summarization Versus Snoozing

Summarization applies to the entire set of alerts generated according the alert configuration, while snoozing applies to a specific alert. This distinction is minor when the alert configuration is very specific, but is notable when the alert configuration is broad.

- For example, Compliance configuration is quite broad: an application workspace, and on which type of violation an alert should be generated. Thus, summarization would apply to all alerts triggered by a 'escaped' condition, while snoozing would apply to a very specific consumer scope, provider scope, provider port, protocol, and the escaped condition.
- On the opposite end, a platform alert configured to alert on a path between source scope and destination scope with a hop count less than some amount, will generate a very specific alert.

Other distinctions:

- Snoozing only results in an alert being sent when a new alert is generated after the snooze interval has passed. There is no indication of how many suppressed alerts might have occurred during the snooze interval.
- A summary alert is generated at the specified frequency, as many as alerts were generated within that interval. Summary alerts provide a count of the number of alerts triggered within the window, along with aggregated or range metrics.

## Secure Workload Alerts Notifier (TAN)



**Note** Starting Secure Workload Release 3.3.1.x, TAN is moving to **Secure Workload Edge Appliance**.



Alert Notifiers provide capabilities to send alerts through various tools such as Amazon Kinesis, Email, Syslog, and Slack in the currently selected scope. As a Scope Owner or Site Admin, each notifier can be configured with required credentials and other information specific to the notifier application.

## Configure Notifiers

To configure notifiers, you must configure the alert-related connectors. The connectors can only be configured after a Secure Workload Edge Appliance is deployed. For more information on deploying Secure Workload Edge appliance, see [Virtual Appliances for Connectors](#).

After the Secure Workload Edge appliance is set up, you can configure each notifier with its specific required input. After the Secure Workload Edge appliance is set up, you will be able to see dashed lines connecting Alert Types to Alerts publisher. This is because the notifier is built on the Alerts publisher.

After the Secure Workload Edge appliance is set up, you can configure each notifier with the required input. After the Secure Workload Edge appliance is set up, you are able to view the dashed lines connecting Alert Types to Publisher. This is due the fact that notifier is built on the Publisher.

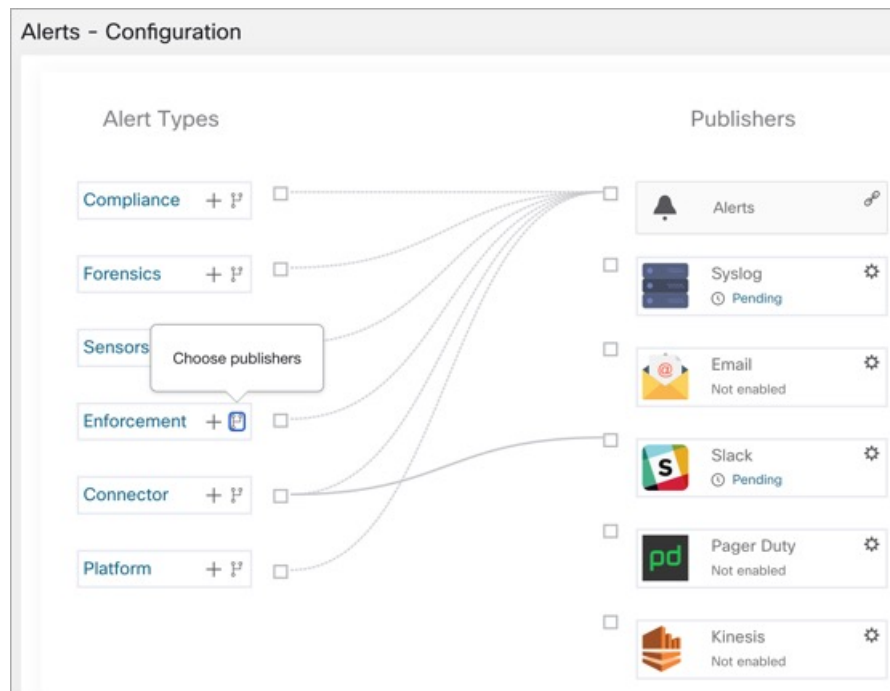
App Frequency is approximately how often the application runs and generates alerts. For example, Compliance has a flexible run frequency, and may actually compute alerts over a couple minutes together.

## Choose Alert Publishers

**Scope Owners** and **Site Admins** can choose **Publishers** to **Send** alerts. **Publishers** include Kafka (Data Tap) and **Notifiers**.

All the available Publishers are displayed in the **Alerts - Configuration** window, including the **Alerts** and **Active Notifiers**. You can toggle the **Send** icon to choose the **Publishers** for the alert type. **Minimum Alert Severity** refers to the severity level an alert must reach to be sent through the **Publishers**.

Figure 5: Choose Alert Publishers



**Note** Choosing external data taps can impact on the maximum number of alerts that can be processed. The maximum number of alerts that can be processed can be reduced to up to 14000 alerts per minute batch.

## External Syslog Tunneling Moves to TAN



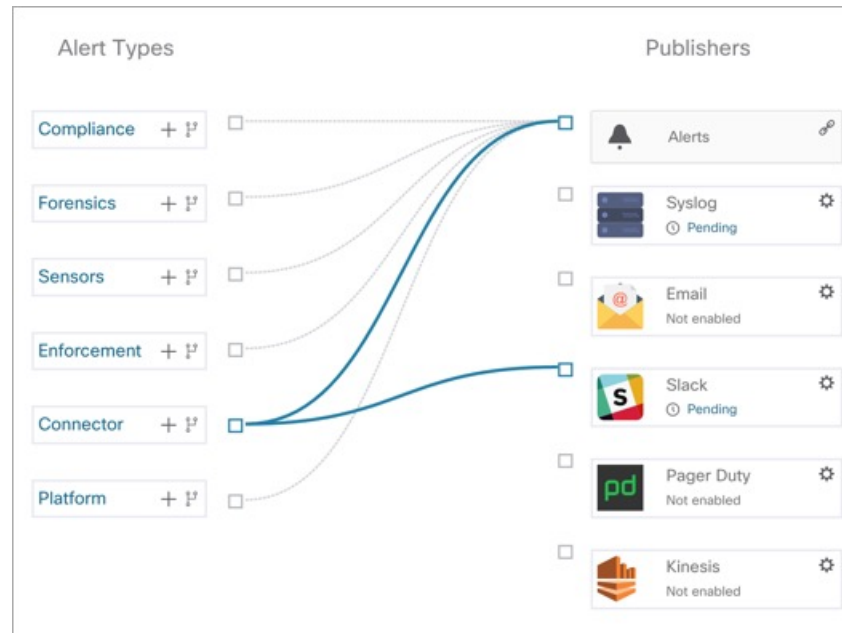
**Note** Starting the 3.1.1.x release, the syslog tunneling feature moves to TAN. To configure syslog for getting platform level syslog events, you must configure TAN on the Secure Workload Edge appliance on default rootscope. When the Secure Workload Edge appliance is configured on the default rootscope, you can set up the syslog server. To enable platform alerts, enable syslog notifications for Platform. This can be done by enabling Platform Syslog connection.

For details about how to configure syslog, see [Syslog Connector](#).

## Connection Chart

The connection chart displays the connections between **Alert Types** and **Publishers**. After you choose a publisher for an alert type, a blue line is established between the alert type and publisher. Note that the line pointing to the Internal Kafka (Data Tap) is always a line created using dashes as it represents an internal mechanism of how alert notifications are built upon.

Figure 6: Connection Chart



**Note** User App generated alerts are not shown in the Alert Configuration page. User Apps are able to send messages and alerts to any configured Data Tap.

## View Alerts Trigger Rules

You can view a list of all the configured Alerts Trigger Rules on the **Alerts - Configuration** page. You can also perform the following tasks:

- You can filter the rules by **Alert Type** and other properties.
- In the **Actions** column, click the **pencil** icon to modify the details such as **Alert Name**, **Alert Types**, **Alert Condition**, **Severity** and so on.
- Click **See All Configured [alert type] Alerts** to view all the alerts of the selected **Alert Type** in a new tab.

Figure 7: View Alerts Trigger Rules

Alerts Trigger Rules

Alert Type

All

Alert Type [↑]	Alert Name [↑]	Configuration [↑]	Actions [↑]
ENFORCEMENT	Agent_Not_Reachable_6537dc4a5da30b497a94de63	Scope : Default when Agent not Reachable (seconds) > 300	
ENFORCEMENT	Workload_Firewall_6537dc4a5da30b497a94de64	Scope : Default when Firewall = Off	
ENFORCEMENT	Workload_Policy_Deviations_6537dc4a5da30b497a94de65	Scope : Default when Policy = Deviated	
SENSORS	Upgrade_Status_6537dc4a5da30b497a94de66	Scope : Default when Agent Upgrade Status = Failed	
SENSORS	iface_Flow_Export_Status_6537dc4a5da30b497a94de67	Scope : Default when Agent Flow Export Status = Stopped	
SENSORS	Upgrade_Srv_Check_In_6537dc4a5da30b497a94de68	Scope : Default when Agent Check-In Service = Inactive	
SENSORS	Agent_Mem_Usage_6537dc4a5da30b497a94de69	Scope : Default when Deep Visibility Memory Usage (MB) > 512 and Enforcement Memory Usage (MB) > 512 and Forensic Memory Usage (MB) > 256	
SENSORS	Agent_Cpu_Quota_6537dc4b5da30b497a94de6a	Scope : Default when Deep Visibility CPU Quota (%) > 3 and Enforcement CPU Quota (%) > 3 and Forensic CPU Quota (%) > 3	
SENSORS	Amt_Of_Flow_Obs_6537dc4b5da30b497a94de6b	Scope : Default when Amount of Flow Observations > 500000	

The Alerts Trigger Rules window is used to filter alerts trigger rules by Alert Type and trigger condition.



**Note** Alert trigger condition is an exact match condition.

## Alerts Trigger Rules Details

Click a row in the **Alerts Trigger Rules** section to view the configuration details.

1. **Alert Type:** Type of the alert.
2. **Alert Name:** Name of the alert.
3. **Configuration:** The condition when an alert is triggered in a particular scope.

You can also view other details such as **Severity**, **Individual Alerts**, and **Summary Alert Frequency**.

Figure 8: Alert Configuration Details

Alerts Trigger Rules

Alert Type

All

Alert Type	Alert Name	Configuration	Actions
ENFORCEMENT	Agent_Not_Reachable_	Scope : Default when Agent not Reachable (seconds) > 300	
Details			
		Severity	Medium
		Individual Alerts	Enable
		Summary Alert Freq.	None
SENSORS	Upgrade_Status_6537dc4a	Scope : Default when Agent Upgrade Status = Failed	
Details			
		Severity	Medium
		Individual Alerts	Enable
		Summary Alert Freq.	None

## Generate Test Alerts

The primary usage of generating a test alert is to verify the connectivity with the publisher. You can configure a test alert to send alerts based on the alert type and linked publisher in the alert configuration.



### Note

- Generating test alerts is not from the actual sources and is generated for test purpose only.
- Test alerts can be generated for alert types which are linked to at least one publisher.

To generate a test alert, follow the steps below:

### Procedure

- Step 1** From the navigation pane, choose **Manage > Workloads > Alerts Config**.
- Step 2** To configure a test alert, click **Test Alert**.

Figure 9: Test Alert Configuration

**Step 3** Under the **Keys** tab, enter the value for Alert Key and choose the values for Event Time, Alert Time, Alert Severity and Alert Type.

**Step 4** Under the **Scope** tab, the values of Scope ID and Tenant ID are autogenerated based on the current scope.

**Note** If the Tenant ID is the same as Tenant ID VRF, then the system automatically checks the Tenant ID VRF check box.

**Step 5** Under the **Details** tab, enter the values for Alert Text, Event Notes, Alert Details, and Alert Configuration ID.

**Note** Alert Details can be string or data in JSON format.

Options for JSON content are:

- a. Containing fields expected by that type of alert.
- b. Any sample JSON data, if that alert type does not expect default json fields.

Sample JSON:

```
{"alert_name ":"sample","alert_category":{"severity": "dummy"}}
```

**Step 6** Under the **Configuration** tab, choose the value for Individual Alert, Alert Frequency, and Summary Alert Frequency.

For individual alerts, choose *ENABLE* or *DISABLE* from the drop-down.

Alert frequency is autoselected with frequency as *INDIVIDUAL*.

**Note** It supports only individual alerts and does not consider summarization.

Summary alert is autoselected to *NONE*.

**Step 7** To generate the test alert, click **TEST**.

**Note** A test alert is generated and sent to the configured publisher.

## Current Alerts

Navigate to the **Investigate > Alerts** page to view the list of all active alerts. You can filter the alerts by **Status**, **Type**, **Severity**, and Time Range.

Only alerts with severity set to IMMEDIATE\_ACTION, CRITICAL, HIGH, MEDIUM, or LOW are displayed on the **Current Alerts** page. All alerts irrespective to the severity values are sent to the configured Kafka broker.

**Figure 10: Current Alerts**

Event Time	Alert Name	Status	Alert Text	Severity	Type	Actions
Nov 9, 4:55 PM	ISE-Connector-Alert	ACTIVE	Missing ISE heartbeats, it might be down	HIGH	CONNECTOR	<a href="#">Z</a> <a href="#">A</a>
Nov 9, 4:55 PM	Syslog-Connector-Alert	ACTIVE	Missing Syslog heartbeats, it might be down	HIGH	CONNECTOR	<a href="#">Z</a> <a href="#">A</a>
Nov 9, 4:55 PM	Slack-Connector-Alert	ACTIVE	Missing Slack heartbeats, it might be down	HIGH	CONNECTOR	<a href="#">Z</a> <a href="#">A</a>
Nov 9, 4:55 PM	ServiceNow-Connector-Alert	ACTIVE	Missing ServiceNow heartbeats, it might be down	HIGH	CONNECTOR	<a href="#">Z</a> <a href="#">A</a>
Nov 9, 4:55 PM	Edge Appliance-Appliance-Down-Alert	ACTIVE	Missing Edge Appliance heartbeats, it might be down	HIGH	CONNECTOR	<a href="#">Z</a> <a href="#">A</a>

### Filter Alerts by Time Range

1. Choose a range from the drop-down list. The default value is 1 month.
2. Click **Custom** and fill in the **From** and **To** dates to configure a custom range. Click **Apply**. Note that when a custom time range is selected, the **Refresh** button is disabled.

### Advanced Filtering

1. Click **Switch to Advanced**.
2. Enter the attributes to filter. Hover over the **info** icon to view the properties to filter.

The alert filters are not retained when you switch back to the basic options.

### View Additional Alert Details

You can view more details by clicking an alert.

Figure 11: Alert Details

Details	
Name	SLACK
Type	SLACK
Appliance ID	653a32375da30b0faaa111ef
Connector ID	653a34111af9610a1686ef48
Connector IP	172.21.158.125/24
Last Checkin At	Nov 07 2023 10.03.51 AM UTC

- Only 60 alerts per minute per root scope are displayed. A higher volume of alerts result in an alert type called Summary Alerts, with a count of alerts that are not displayed .
- There is a maximum number of alerts that are displayed at any point in time; older alerts are dropped as new alerts come in.

For more information, see [Limits](#).

## Snooze Alerts

The Alerts App allows alerts of the same type to be snoozed for a chosen amount of time. The type of the alert is defined differently depending on the workspace that the alert has currently been configured for. For example, the Compliance alert type is defined as the four tuples: consumer scope, provider scope, protocol, and provider port.



**Note** Currently, you cannot snooze or mute the user app-created alerts.

### Snooze or Mute an Alert

#### Snooze Alerts:

1. Under **Actions**, click the **Snooze** icon.
2. Choose an interval from the drop-down.
3. Click **Snooze**.

Figure 12: Snooze an Alert

Event Time	Alert Name	Status	Alert Text	Severity	Type	Actions
Nov 10, 4:59 PM	Slack-Connector-Alert	ACTIVE	Missing Slack heartbeats, it might be down	HIGH	CONNECTOR	Snooze an alert
Nov 10, 4:59 PM	Edge Appliance-Appliance-Down-Alert	ACTIVE	Missing Edge Appliance heartbeats, it might be down	HIGH	CONNECTOR	Snooze an alert
Nov 10, 4:59 PM	Syslog-Connector-Alert	ACTIVE	Missing Syslog heartbeats, it might be down	HIGH	CONNECTOR	Snooze an alert
Nov 10, 4:59 PM	Syslog-Connector-Alert	ACTIVE	Missing Syslog heartbeats, it might be down	HIGH	CONNECTOR	Snooze an alert
Nov 10, 4:59 PM	Serviceflow-Connector-Alert	ACTIVE	Missing Serviceflow heartbeats, it might be down	HIGH	CONNECTOR	Snooze an alert
Nov 10, 4:59 PM	ISE-Connector-Alert	ACTIVE	Missing ISE heartbeats, it might be down	HIGH	CONNECTOR	Snooze an alert



**Mute Alert:**

Use the mute option to stop receiving alerts.

1. Under **Actions**, click the **Mute** icon.
2. To confirm, click **Yes**.

To unmute, remove the alert from the muted list. Use the **Status** filter drop-down to view all **MUTED** alerts and unmute the required alert.



**Note** You can view up to 5000 muted or snoozed alerts in a scope.

**Admiral Alerts**

Admiral is an integrated alerting system, which replaces Bosun from earlier releases. For more information, see the Admiral Alerts section.

# Alert Details

## Common Alert Structure

All alerts follow an overall common structure. The structure corresponds to the json message structure available through Kafka DataTaps.

Field	Format	About
root_scope_id	string	Scope Id corresponding to top scope in scope hierarchy.
key_id	string	id field used for determining 'similar' alerts. Identical key_id's can be snoozed.
type	string	Type of the alert. Fixed set of string values: COMPLIANCE, USERAPP, FORENSICS, ENFORCEMENT, SENSOR, PLATFORM, FEDERATION, CONNECTOR
event_time	long	timestamp of when the event triggered (or if event spanned a range, then the beginning of the range). This timestamp is in epoch milliseconds (UTC).

Field	Format	About
alert_time	long	Timestamp of when the alert was first attempted to be sent. This will be after the timerange of the event. This timestamp is in epoch milliseconds (UTC).
alert_text	string	Title of the alert.
alert_text_with_names	string	Same content as alert_text but with any id fields replaced by corresponding name. This field may not exist for all alerts.
severity	string	Fixed set of string values: LOW, MEDIUM, HIGH, CRITICAL, IMMEDIATE_ACTION. This is the severity of the alert. For some types of alerts these values are configurable.
alert_notes	string	Usually not set. May exist in some special cases for passing additional information through Kafka DataTap.
alert_conf_id	string	id of the alert configuration that triggered this alert. May not exist for all alerts.
alert_details	string	Structured data. Stringified json. See feature details for specific alert type, since the exact structure of this field varies based on the type of alert.
alert_details_json	json	Same content of alert_details, but not stringified. Only present for compliance alerts, and only available through Kafka.
tenant_id	string	May contain vrf corresponding to root_scope_id. Or may contain 0 as the default value. Or may not be present at all.
alert_id	string	Internal generated temporary id. Best ignored.
alert_name	string	Name of the alert.

- Compliance: lab-compliance-alert-details

- Forensics: [External Integration](#) and [Forensic event fields](#)
- Sensor: [Sensor Alert Details](#)
- Enforcement: [Enforcement Alert Details](#)
- Connector: [Alert Details](#)

Additional alert types for on-prem clusters

- Fabric: [fabric-alert-details](#)
- Federation: [federation-alert-details](#)
- Platform: [Alert Details](#)
- Federation: [federation-alert-details](#)
- Platform: [Alert Details](#)

## General Alert Format by Notifier

The following are the examples of how alerts display across various notifier types.



**Note** Starting Secure Workload 3.9, notifier details include **Alert Name**.

### Kafka (DataTaps)

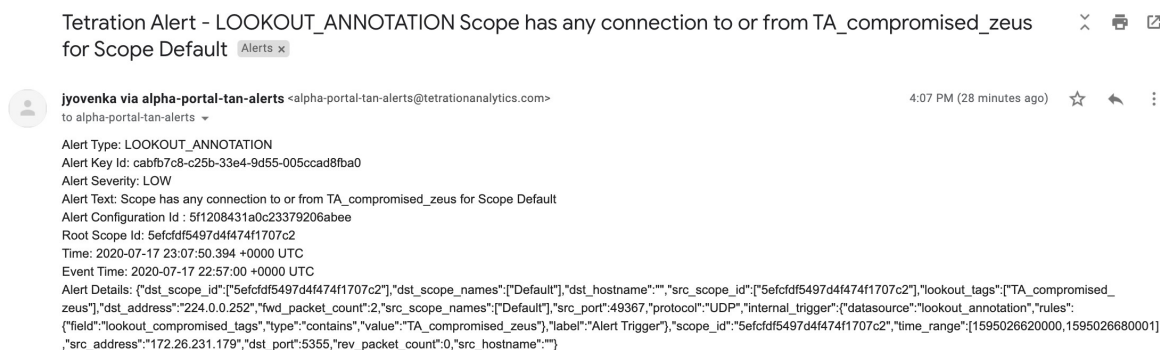
Kafka (DataTap) messages are in JSON format. Example below; see above `alert_details` for some additional examples.

```
{
  "severity": "LOW",
  "tenant_id": 0,
  "alert_time": 1595207103337,
  "alert_text": "Lookout Annotated Flows contains TA_zeus for
<scope_id:5efcfd5497d4f474f1707c2>",
  "key_id": "0a4a4208-f721-398c-b61c-c07af3be9413",
  "alert_id": "/Alerts/5efcfd5497d4f474f1707c2/DataSource{location_type='TETRATION_PARQUET',
location_name='lookout_annotation', location_grain='HOURLY',
root_scope_id='5efcfd5497d4f474f1707c2'}/bd33f37af32a5ce71e888f95ccfe845305e61a12a7829ca5f2d72bf96237d403",
  "alert_text_with_names": "Lookout Annotated Flows contains TA_zeus for Scope Default",
  "root_scope_id": "5efcfd5497d4f474f1707c2",
  "alert_conf_id": "5f10c7141a0c236b78148da1",
  "type": "LOOKOUT_ANNOTATION",
  "event_time": 1595204760000,
  "alert_details":
  {
    "scope_id": "5efcfd5497d4f474f1707c2",
    "time_range": [1595207000, 1595208000],
    "src_address": "172.26.230.124",
    "dst_port": 137,
    "evgadget_content": "Schostrom",
    "type": "LOOKOUT_ANNOTATION"
  }
}
```

## Email

Information about configuring Email alerts: [Email Connector](#)

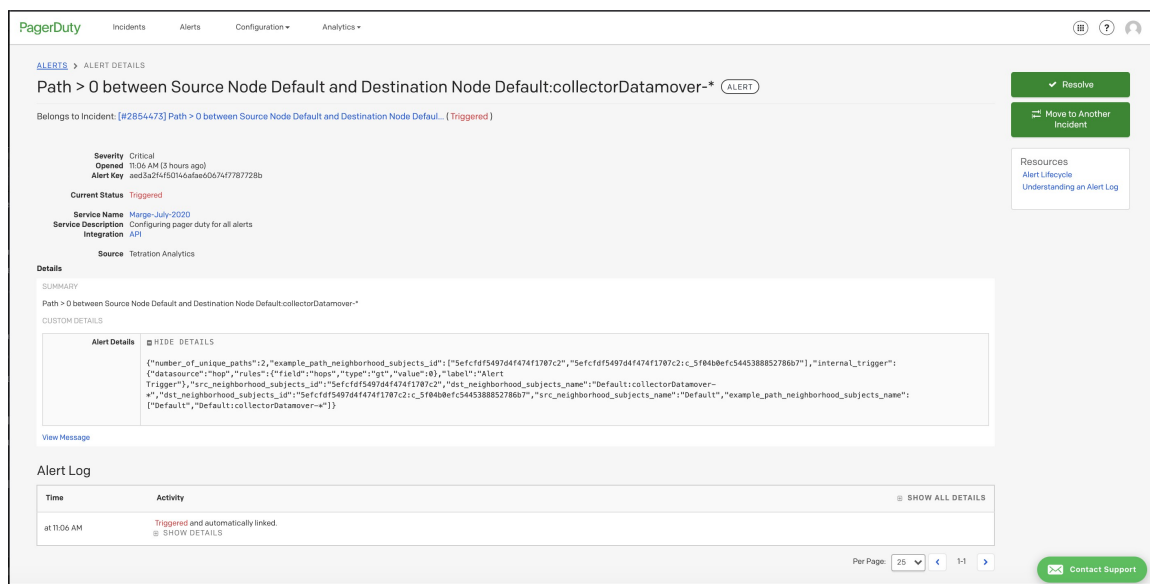
Figure 13: Example of a Cisco Secure Workload Alert



## PagerDuty

Information about configuring PagerDuty alerts: [PagerDuty Connector](#)

Figure 14: Example of a Secure Workload Alert in PagerDuty



Alerts sent to PagerDuty is a re-trigger of the same alert based on the key\_id.

Severity is mapped to PagerDuty severity as follows:

Secure Workload Severity	PagerDuty Severity
IMMEDIATE_ACTION	critical
CRITICAL	critical
HIGH	error

Secure Workload Severity	PagerDuty Severity
MEDIUM	warning
LOW	info

## Syslog

Information about configuring Syslog alerts, and adjusting severity mapping: [Syslog Connector](#)

Figure 15: Example of several Secure Workload alerts sent to syslog

```
Aug 2 18:45:21 tan-5f035bae1a0c231d5880d7f8-tac-demo-data-ingest Tetration Alert[26841]: [DEBUG] {"keyId":"9ee0d8b7-bc81-3427-9e84-6b9f8fedb98c","eventTime":"1596393720000","alertTime":"1596393968822","alertText":"Enforcement Annotated Flows contains escaped for \u003capplication_id:5f04b0b9755f024d4e36a279\u003e","severity":"LOW","tenantId":"0","type":"COMPLIANCE","alertDetails":{"consumer_scope_ids":{"5efcfd5497d4f474f1707c2"},"consumer_scope_names":{"Default"},"provider_scope_names":{"Default"},"provider_port":53,"application_id":{"5f04b0b9755f024d4e36a279"},"constituent_flows":[{"consumer_port":{"37367},"protocol":{"UDP"},"consumer_address":{"172.31.163.136},"provider_address":{"171.70.168.183},"provider_port":{"53},"consumer_port":{"39652},"protocol":{"UDP"},"consumer_address":{"172.31.163.137},"provider_address":{"171.70.168.183},"provider_port":{"53},"consumer_port":{"6881},"protocol":{"UDP"},"consumer_address":{"172.31.163.136},"provider_address":{"171.70.168.183},"provider_port":{"53},"consumer_port":{"57418},"protocol":{"UDP"},"consumer_address":{"172.31.163.138},"provider_address":{"173.36.131.10},"provider_port":{"53},"consumer_port":{"12599},"protocol":{"UDP"},"consumer_address":{"172.31.163.141},"provider_address":{"173.36.131.10},"provider_port":{"53},"consumer_port":{"7385},"protocol":{"UDP"},"consumer_address":{"172.31.163.140},"provider_address":{"173.36.131.10},"provider_port":{"53}}],"escaped_count":6,"provider_scope_ids":{"5efcfd5497d4f474f1707c2"},"policy_type":{"ENFORCED_POLICY"},"protocol":{"UDP"},"internal_trigger":{"datasource":{"compliance"},"rules":{"field":{"policy_violations"},"type":{"contains"},"value":{"escaped"},"label":{"Alert Trigger"},"time_range":{"1596393720000,1596393779999},"policy_category":{"ESCAPED"}}},"rootScopeId":{"5efcfd5497d4f474f1707c2"},"alertConfId":{"5f15cca71a0c231ebd66ca3b"},"alertTextWithNames":"Enforcement Annotated Flows contains escaped for Enforced Application j1"}
Aug 2 18:45:21 tan-5f035bae1a0c231d5880d7f8-tac-demo-data-ingest Tetration Alert[26841]: [DEBUG] {"keyId":"8f0fcfb5-f8c1-3130-a669-3721b7d50159","eventTime":"1596393720000","alertTime":"1596393968822","alertText":"Enforcement Annotated Flows contains escaped for \u003capplication_id:5f04b0b9755f024d4e36a279\u003e","severity":"LOW","tenantId":"0","type":"COMPLIANCE","alertDetails":{"consumer_scope_ids":{"5efcfd5497d4f474f1707c2"},"consumer_scope_names":{"Default"},"provider_scope_names":{"Default"},"provider_port":{"5660},"application_id":{"5f04b0b9755f024d4e36a279"},"constituent_flows":[{"consumer_port":{"17131},"protocol":{"TCP"},"consumer_address":{"172.26.231.193},"provider_address":{"172.31.163.140},"provider_port":{"5660},"escaped_count":1,"provider_scope_ids":{"5efcfd5497d4f474f1707c2"},"policy_type":{"ENFORCED_POLICY"},"protocol":{"TCP"},"internal_trigger":{"datasource":{"compliance"},"rules":{"field":{"policy_violations"},"type":{"contains"},"value":{"escaped"},"label":{"Alert Trigger"},"time_range":{"1596393720000,1596393779999},"policy_category":{"ESCAPED"}}},"rootScopeId":{"5efcfd5497d4f474f1707c2"},"alertConfId":{"5f15cca71a0c231ebd66ca3b"},"alertTextWithNames":"Enforcement Annotated Flows contains escaped for Enforced Application j1"}
Aug 2 18:45:21 tan-5f035bae1a0c231d5880d7f8-tac-demo-data-ingest Tetration Alert[26841]: [DEBUG] {"keyId":"1ef4a974-be89-31de-abe9-dc71cb0170ad","eventTime":"1596393720000","alertTime":"1596393968822","alertText":"Enforcement Annotated Flows contains escaped for \u003capplication_id:5f04b0b9755f024d4e36a279\u003e","severity":"LOW","tenantId":"0","type":"COMPLIANCE","alertDetails":{"consumer_scope_ids":{"5efcfd5497d4f474f1707c2"},"consumer_scope_names":{"Default"},"provider_scope_names":{"Default"},"provider_port":{"443},"application_id":{"5f04b0b9755f024d4e36a279"},"constituent_flows":[{"consumer_port":{"17792},"protocol":{"TCP"},"consumer_address":{"172.26.231.193},"provider_address":{"172.31.163.133},"provider_port":{"443},"escaped_count":1,"provider_scope_ids":{"5efcfd5497d4f474f1707c2"},"policy_type":{"ENFORCED_POLICY"},"protocol":{"TCP"},"internal_trigger":{"datasource":{"compliance"},"rules":{"field":{"policy_violations"},"type":{"contains"},"value":{"escaped"},"label":{"Alert Trigger"},"time_range":{"1596393720000,1596393779999},"policy_category":{"ESCAPED}}},"rootScopeId":{"5efcfd5497d4f474f1707c2"},"alertConfId":{"5f15cca71a0c231ebd66ca3b"},"alertTextWithNames":"Enforcement Annotated Flows contains escaped for Enforced Application j1"}
```

## Slack

Information about configuring Slack alerts: [Slack Connector](#)

Figure 16: Example of a Secure Workload alert sent to slack channel

```

10:37 Tetratation Alert Wednesday, July 29th
  be200f5c2dbc linux-amd64 AgentInactive
  Severity                                Type
  MEDIUM                                  SENSOR
  Alert Time                               Event Time
  2020-07-29 17:37:49.519 +0000 UTC        2020-07-29 17:37:01 +0000 UTC
  Root Scope Id
  5efcfd5497d4f474f1707c2

  Details
  {
    "agent_uuid": "6a968f8a8ddf2a4ec4534955d247bcb5ce484046",
    "details": {
      "AgentType": "NETSCALER",
      "Bios": "53C9551F-F149-4BC7-FAE4-BAF211FDF910",
      "CurrentVersion": "3.5.2.69722.stshanta.mrpm.build-netscaler",
      "DesiredVersion": "3.5.2.70759.dashboard.selfpmr.mrpm.build",
      "HostName": "be200f5c2dbc",
      "IP": "10.24.28.80",
      "LastConfigFetchAt": "2020-07-02 01:28:59 +0000 UTC",
      "Platform": "linux-amd64"
    },
    "scope_id": "5efcfd5497d4f474f1707c2",
    "scope_name": "Default",
    "vrf_id": 1
  }
  Show less Latest messages
  
```

## Kinesis

Information about configuring Kinesis alerts: [Kinesis Connector](#)

Kinesis alerts are similar to Kafka alerts, as these are both message queues.