Integrating Cisco ASA and Cisco Security Analytics and Logging (SaaS) using CSM

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Cisco ASA and Cisco Security Analytics and Logging (SaaS) Integration Guide

This guide describes how to configure ASA with SAL (SaaS), how the events and syslog messages are handled in SAL (SaaS), and how to view the events from CDO.

Overview

You can configure your ASA devices to send syslog and NetFlow Secure Event Logging (NSEL) events to an external eventing service, store the logs in the Cisco cloud, and view them in the Event Logging page of Cisco Defense Orchestrator (CDO). In the Event Logging page, you can filter the events, download them, and review them for troubleshooting security issues. This guide provides the procedure to integrate Cisco Security Manager (CSM) managed ASA devices with Cisco Security Analytics and Logging (SaaS) solution.

Note For information on integrating CDO managed ASA with SAL (SaaS), see Cisco Security Analytics and Logging for ASA Devices.

Syslog and NSEL Events

The syslogs are system log or event messages sent to a syslog server by ASA devices that are used for monitoring and troubleshooting device issues. The syslog messages have classes and IDs to denote the type of events and their severity.For detailed information on ASA syslog messages, see ASA Syslog Guide.

NSEL is a stateful flow tracking method that exports only those records that indicate significant events in a flow. In stateful flow tracking, tracked flows go through a series of state changes. NSEL events have equivalent syslog messages. Those syslog messages are classified under CDO event filter as Firewall denied and Firewall traffic. The Cisco ASA supports NetFlow version 9 services. For more information, see Cisco ASA NetFlow Implementation Guide.

Note You must enable NSEL to send data to SAL (SaaS) to avail the SWC services.

Components of ASA and SAL (SaaS) Integration

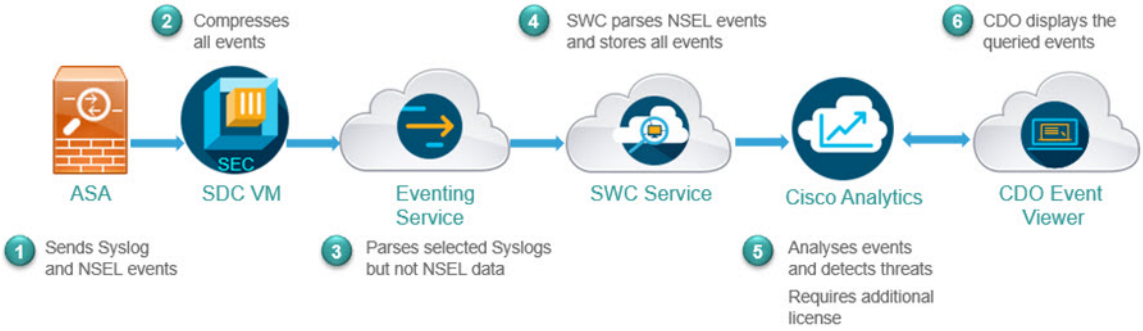
- Cisco Security Manager (CSM)—A network management tool that manages your ASA devices.
- On-Premises Secure Device Connector (SDC)—The SDC handles communication between CDO and your ASA. The on-premises SDC is a virtual appliance installed on a hypervisor in your network. You

can create your on-premises SDC by using an image provided by Cisco or you can create your own VM and install the SDC on it.

- Secure Event Connector (SEC)—An application installed on an on-premises Secure Device Connector (SDC) that receives events from ASA devices and forwards them to the Cisco cloud.
- Stealthwatch Cloud (SWC)—Cloud-based analytical solution that provides a deeper analysis of events gathered from your network. It allows you to identify trends and examine anomalous behavior in your network traffic.
- Cisco Defense Orchestrator (CDO)—CDO is a cloud-based multi-device manager that co-exists with local ASA device manager, namely, ASDM, and SSH connections. With a CDO account, you can view the ASA event logs stored in the Cisco cloud. With additional licensing, you can cross-launch from CDO to a Stealthwatch Cloud portal provisioned for you.

ASA Event Flow in SAL (SaaS)

Following is the flow of ASA events in SAL after a successful integration:



1. ASA sends events (syslog and NSEL events) to the SEC component of the SDC VM that is configured in CDO.
2. The SEC accepts both TCP and UDP syslogs from ASA and compresses the events. From here on, the events are securely transferred to the Cisco cloud. The SEC sends the compressed events to the cloud-based Eventing Service.

Note Events are compressed to ensure secured transfer of data. Your data subscription and historical monthly consumption are not assessed on this compressed data. They are assessed on the uncompressed data that you use.

3. The Eventing service parses the syslog events; it does not parse the NSEL data. It forwards both the syslog events and the NSEL data to the Stealthwatch Cloud (SWC) solution.
4. The SWC parses NSEL and stores the results along with syslog events.
5. The Cisco Analytics service, analyzes the events and detects threats based on observations. Note that to avail this service, you must have the Logging Analytics and Detection or Total Network Analytics and Detection license.

6. The CDO event viewer displays the events stored in the Cisco cloud based on your filter criteria.

Requirements and Prerequisites for SAL (SaaS) Integration

Requirement or Prerequisite Type	Requirement
ASA	Cisco Security Manager (CSM) Release 4.4 or later. ASA running software release 9.0 or later. Your appliance must be deployed and successfully generating events.
Regional cloud	Determine which regional cloud you will send events to. Events cannot be viewed from or moved between different regional clouds.
Data plan	Determine the amount of storage your system will require: See Calculate Storage Requirements and Purchase a Data Plan, on page 4.
Licensing	• Cisco Security Analytics and Logging licenses: Any For licensing options and descriptions, see SAL (SaaS) Licenses, on page 3. • CDO licenses: No additional CDO licensing is required. • Stealthwatch Cloud licenses: No additional licensing is required. • ASA licenses: No additional licensing required. For information on Cisco Smart Software Licensing for ASA, see Cisco Smart Software Licensing.
Accounts	When you purchase a license for this integration, you will be provided with a CDO tenant account to support this functionality.
Additional prerequisites	See the Before You Begin or Prerequisites section of each procedure.

SAL (SaaS) Licenses

License	Details
Free trial	To get a 30 day free trial license, visit https://info.securexanalytics.com/sal-trial.html.
Logging and Troubleshooting	Store events in the Cisco cloud, and view and filter stored events using the CDO web interface.

License	Details
(Optional) Logging Analytics and Detection	The system can apply Stealthwatch Cloud dynamic entity modeling to your ASA events, and use behavioral modeling analytics to generate Stealthwatch Cloud observations and alerts. You can cross-launch from CDO to a Stealthwatch Cloud portal provisioned for you, using Cisco Single Sign-On. When you purchase a license for SAL, you will be provided access to a CDO tenant for log viewing and a SWC instance for threat detections. Users of SAL do not need a separate CDO or SWC license to access these two portals for the outcomes that SAL provides.
(Optional) Total Network Analytics and Detection	The system applies dynamic entity modeling to both your ASA events and your network traffic, and generates observations and alerts. You can cross-launch from CDO to a Stealthwatch Cloud portal provisioned for you, using Cisco Single Sign-On. When you purchase a license for SAL, you will be provided access to a CDO tenant for log viewing and a SWC instance for threat detections. Users of SAL do not need a separate CDO or SWC license to access these two portals for the outcomes that SAL provides.

For details about SAL (SaaS) licensing options, see the *Cisco Security Analytics and Logging Ordering Guide* at https://www.cisco.com/c/en/us/products/collateral/security/security-analytics-logging/guide-c07-742707.html.

SAL (SaaS) licenses provide the right to use a Cisco Defense Orchestrator tenant to view firewall logs and a Stealthwatch Cloud (SWC) instance for analytics, without holding separate licenses for either of these products.

To purchase SAL (SaaS) licenses, contact your authorized Cisco sales representative, or visit https://apps.cisco.com/Commerce/guest and look for PIDs starting with **SAL-SUB**.

Calculate Storage Requirements and Purchase a Data Plan

You need to buy a data plan that reflects the number of events the Cisco cloud receives from your ASAs on a daily basis. This is called your "daily ingest rate."

To estimate your data storage requirements:

- (Recommended) Participate in a free trial of Cisco Security Analytics and Logging (SaaS) before you buy it. See SAL (SaaS) Licenses, on page 3.
- Use the Logging Volume Estimator Tool at https://ngfwpe.cisco.com/ftd-logging-estimator.

Data plans are available in various daily volumes, and in various yearly terms. See the *Cisco Security Analytics and Logging Ordering Guide* at https://www.cisco.com/c/en/us/products/collateral/security/security-analytics-logging/guide-c07-742707.html for information about data plans.

Note If you have a SAL (SaaS) license and data plan, then obtain a different license at a later date, that alone does not require you to obtain a different data plan. If your network traffic throughput changes and you obtain a different data plan, that alone does not require you to obtain a different SAL (SaaS) license.

How to Set Up Event Data Storage in SAL (SaaS)

Do This	More Information
Review requirements and prerequisites	See Requirements and Prerequisites for SAL (SaaS) Integration, on page 3
Obtain required licenses, accounts, and a data storage plan	Contact your authorized Cisco sales representative.
Set up CDO access using multi-factor authentication	See instructions in the CDO online help for Signing in to CDO. .
Set up an on-premises Secure Device Connector (SDC) on a VMWare virtual machine	This component is required solely to enable installation of the SEC, which is the component to which your ASA devices will send events. Use one of the following, as described in the CDO online help: • (Preferred) Use the CDO-provided VM image. • Create an SDC without using the CDO-provided image. **Important!** Don't skip the procedure prerequisites. However, ignore any information about onboarding, which does *not* apply to this integration.
Install the Secure Event Connector (SEC) on the SDC virtual machine you just created.	This is the component to which your ASA devices will send events. See the CDO online help for instructions to Install the Secure Event Connector. **Important!** Don't skip the procedure prerequisites. However, ignore any information about onboarding, which does *not* apply to this integration.
Configure CSM to have your ASA send syslog and NSEL events to the SEC.	CSM Configuration to Send Syslog Events from ASA Devices, on page 6 and CSM Configuration to Send NSEL Events from ASA Devices, on page 8
Verify that your events are being sent successfully	See View and Work with Events, on page 9.
(Optional) Configure general settings in CDO	For example, you can make your data unavailable to Cisco support staff. In the CDO online help, see General Settings.
(Optional) Create CDO user accounts for colleagues to view and work with your events.	In the CDO online help, see Create a New CDO User.

How to Obtain SEC IP and Port Numbers from CDO

While configuring your ASA device to connect with the Cisco cloud, you would require the SEC IP and its port number. To obtain the SEC details from CDO, do the following:

Procedure

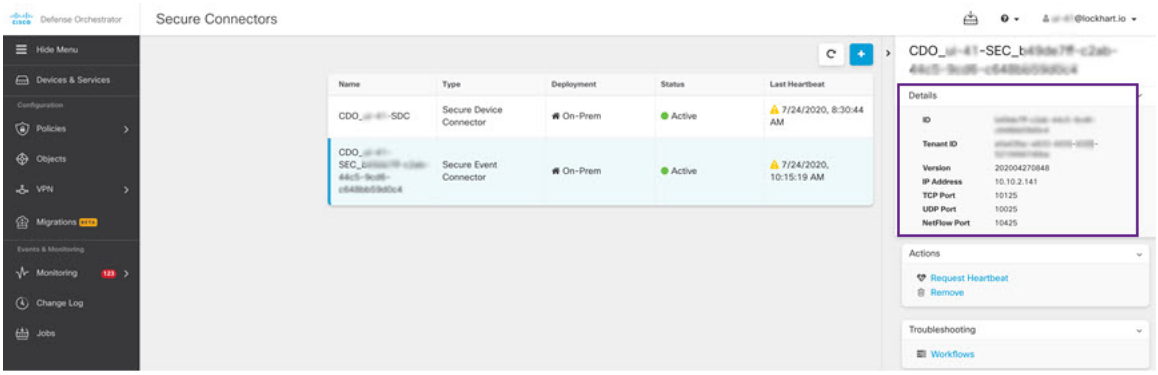
Step 1 Sign in to CDO.

Step 2 From the user menu at the top right side of the CDO browser window, select **Secure Connectors**.

Step 3 In the Secure Connectors list, click the desired SEC.

Step 4 In the Details section, look for the configured IP address, TCP, UDP, and NetFlow port numbers.

Figure 1: Obtaining SEC IP and Port Numbers



CSM Configuration to Send Syslog Events from ASA Devices

This procedure documents the Cisco Security Manager (CSM) configuration for sending ASA syslog messages for security events to SAL (SaaS).

Before you begin

- Review the requirements and prerequisites section.
- Set up event data storage in SAL (SaaS).
- Confirm that your ASA devices can reach SEC(s).
- If you have installed SDC on a custom linux VM, ensure that SEC receives the ASA syslogs.
- Obtain the SEC IP address and port number from CDO.
- EMBLEM logging format and secure logging are not supported for this integration.

Procedure

Step 1 Log in to **Configuration Manager** window of Cisco Security Manager.

Step 2 Enable syslog logging.

a) To access the Syslog Logging Setup page, do one of the following:

- (Device view) Choose **Platform** > **Logging** > **Syslog** > **Logging Setup** from the Policy selector.
- (Policy view) Choose **Router Platform** > **Logging** > **Syslog** > **Logging Setup** from the Policy Type selector. Select an existing policy or create a new one.

b) In the Syslog Logging Setup page, check the **Enable Logging** check box to turn on syslog logging. Click **Save**.

Note This integration does not support EMBLEM format. Hence, ensure that the **Send syslogs in EMBLEM** check box is not selected.

Step 3 Configure the logging filter settings for the syslog server (SEC).

a) Choose **Platform** > **Logging** > **Syslog** > **Logging Filters** from the Policy selector.
b) From the table, select **Syslog Servers** under the **Logging Destination** column, and then click **Edit**. If the Syslog Servers object is not found, click **Add Row**.
c) In the **Add/Edit Logging Filters** dialog box, select one of the following logging filter settings:

- To filter the syslog messages based on the severity levels, click **Filter on severity**, and then choose the severity level.

  Note ASA generates system log messages with severity levels up to the specified level.

- To filter the syslog messages based on the message IDs, click **Use event list** and from the drop-down list, select the event list of your choice.

  Note The drop-down list will be blank if you have not defined any event list. You must define at least one event list (**Platform** > **Logging** > **Syslog** > **Event Lists**).

d) Save your settings.

Step 4 (Optional) Configure logging parameters:

a) (Device view) Choose **Platform** > **Logging** > **Syslog** > **Server Setup**.
b) To configure timestamp format in syslog messages, check the **Enable Timestamp on Each Syslog Message** check box, and then check the **Enable Timestamp Format(rfc5424)** check box.

Note RFC5424 is supported only from ASA 9.10(1).

c) (Optional) Configure ASA to display syslog messages with device ID:

- **Interface**—Click this radio button and select an interface of the ASA device.
- **User Defined ID**—Click this radio button and enter a desired name to be added to all syslog messages of the ASA device.
- **Host Name**—Click this radio button to display syslog messages with the device hostname.

Note The syslog server uses the device ID to identify the syslog generator. You can specify only one type of device ID for syslog messages.

d) Click **Save**.

Step 5 Configure the external logging server to which the syslog messages are to be sent.

a) To access the Syslog Servers page, do one of the following:

- (Device view) Select **Platform** > **Logging** > **Syslog Servers** from the Policy selector.
- (Policy view) Select **Router Platform** > **Logging** > **Syslog Servers** from the Policy Type selector. Select an existing policy or create a new one.

b) Click **Add** to add a new syslog server.

c) In the **Add/Edit Syslog Server** dialog box, specify the following:

- **Interface**—The interface that is used to communicate to the syslog server
- **IP Address**—The SEC IP obtained from CDO (for instructions, refer to the Before you begin section).
- **Protocol**—Select TCP or UDP.
- **Port**—The corresponding SEC port number obtained from CDO (for instructions, refer to the Before you begin section).

Note The **Log messages in Cisco EMBLEM format** check box is available if you selected UDP. This integration does not support EMBLEM format. Hence, ensure that this check box is not selected.

d) Click **OK** to save your configuration and close the dialog box. The syslog server you defined is displayed in the table.

Step 6 Submit and deploy the configuration changes.

CSM Configuration to Send NSEL Events from ASA Devices

This procedure documents the CSM configuration for sending ASA's NetFlow Secure Event Logging (NSEL) events to SAL (SaaS).

Before you begin

- Review the requirements and prerequisites section.
- Set up event data storage in SAL (SaaS).
- Confirm that your ASA devices can reach SEC(s).
- If you have installed SDC on a custom linux VM, ensure that SEC receives the ASA syslogs.
- Obtain the SEC IP address and port number from CDO.

Procedure

Step 1 Log in to **Configuration Manager** window of Cisco Security Manager.

Step 2 Add the NetFlow collector to which the NetFlow packets are to be sent. Here, the Secure Event Connector (SEC) is the NetFlow collector.

a) To access the NetFlow page, do one of the following:

- (Device view) Choose **Platform** > **Logging** > **NetFlow** from the Policy selector.
- (Policy view) Choose **Router Platform** > **Logging** > **NetFlow** from the Policy Type selector. Select an existing policy or create a new one.

b) In the **Collectors** section, click **Add** to add a collector.

c) In the **Add and Edit Collector** dialog box, specify the following:

- **Interface**—The interface that is used to communicate to the NetFlow collector
- **IP Address or Hostname**—The SEC IP address obtained from CDO (for instructions, refer to the Before you begin section)
- **UDP Port**—The SEC port number obtained from CDO (for instructions, refer to the Before you begin section)

d) Click **Ok**.

Step 3 Configure service policy:

a) (Device view) Choose **Platform** > **Service Policy** > **Rules**.

b) Click **Add**.

c) In **Insert Service Policy (MPC) Rule 1 - Configure a Service Policy**, click the **Global - applies to all interfaces** radio button to apply the rule to the global policy, and then click **Next**.

d) In **Insert Service Policy (MPC) Rule 2 - Configure the Traffic Class**, click the **Use class-default As the Traffic Class** radio button, and then click **Next**.

e) In **Insert Service Policy (MPC) Rule 3 - Configure the Actions**, click the **NetFlow** tab, and for each of the event actions, click **Select**.

f) In **Networks/Hosts Selector**, move the collector (SEC) added in Step 2 from **Available Networks/Hosts** to **Selected Networks/Hosts** box. click **Ok**.

g) Click **Finish**.

Step 4 The information sent through NSEL events overlap with some of the syslog connection events. To disable the redundant syslog messages from being forwarded to SEC:

a) (Device view) Choose **Platform** > **Logging** > **Syslog** > **Server Setup**.

b) Click the **Disable NetFlow Equivalent Syslogs** button.

c) Click **Save**.

Step 5 Submit and deploy the configuration changes.

View and Work with Events

To view and search your events in the cloud:

Procedure

Step 1 Use your browser to go to the regional CDO cloud to which you sent your events:

- North America:

  http://www.defenseorchestrator.com

- Europe:

  http://www.defenseorchestrator.eu

Step 2 Sign in to CDO.

Step 3 From the navigation bar, select **Monitoring > Event Logging**.

Step 4 Use the **Historical** tab to view historical events data. By default, the viewer displays this tab.

Step 5 To view the live events, click the **Live** tab.

Note In the Event Logging page,

- The deep parsed ASA syslog events are displayed in italics.
- To view the NetFlow events, in the **Filters** pane, under **ASA Events**, check the **NetFlow** check box. The NetFlow events can be identified by their event type values—1, 2, 3, and 5.
- The **Include NetFlow Events** check box at the bottom of the **Filters** pane is checked by default. When you filter the events to view Firewall Denied and Firewall Traffic, the NetFlow events are also displayed along with the syslog events.

For more information about what you can do on this page, see the CDO online help for instructions on viewing events.

What to do next

If you have a **Logging Analytics and Detection** or **Total Network Analytics and Detection** license, see instructions in the CDO online help to cross-launch into the Stealthwatch Cloud portal.

Frequently Asked Questions

Do I need to onboard my ASA devices to CDO?

No. Do NOT onboard your devices to CDO.

Do I need CDO and Stealthwatch Cloud licenses also with SAL (SaaS)?

No. SAL (SaaS) provides right to use Cisco Defense Orchestrator (CDO) for event viewing, and Stealthwatch Cloud (SWC) for behavioral detections, without need to hold licenses to these two products separately. However, to use diagnostic and analytical features of SWC, you need to procure appropritae licenses.

If I upgrade my ASA, do I need to upgrade my data plan also?

No. Data plans are based on the number of events the Cisco cloud receives from your ASAs on a daily basis. You can change your data plan irrespective of the device version. See Calculate Storage Requirements and Purchase a Data Plan, on page 4.

I am not seeing events in CDO Event viewer. What should I do?

1. Perform basic health-check of service running in SEC and its connectivity with Cisco cloud. You need to be in SDC VM as *sdc user* to run health check. For detailed information, see Cisco Defense Orchestrator Guide.
2. Ensure ASA is configured with the correct SEC IP address and TCP/UDP port.

If problem persists, contact Cisco Defense Orchestrator Support.