Maintain and Monitor Cisco Cyber Vision

Monitored presets

To monitor your network using Cisco Cyber Vision Center, you must set up monitored presets. A monitored preset is any preset that is monitored against a baseline.

To view the presets in your Center, from the main menu, choose **Explore**. Click a preset to view the network data that matches the preset definition. You can also export the data as a PDF file.

Presets

A preset is a customizable view that allow you to focus on specific subsets of network data. A preset filters network data based on defined criteria and gives you a focused view of an organizational network for quick, meaningful analysis.

The parameters that you can configure for a preset include:

- Time
- Risk score range
- Networks, by IP subnets or VLAN IDs
- Device tags
- Activity tags

- Groups
- Sensors

Baseline

A baseline is a snapshot of a preset. It is the reference point against which network behavior is periodically compared to detect network deviations or anomalies by identifying changes such as new devices, altered communications, or unusual activities that may indicate security issues or operational problems.

Multiple baselines for a preset

You can create multiple baselines for a preset to monitor in various known states of your network.

For example, network activity baselines may differ for weekdays and weekends. Create two baselines for these scenarios, and activate the baseline that would be an accurate monitor for your network on any given day.

To activate one of multiple baselines for a monitored preset, see Configure monitored presets, on page 2

Create baselines

Procedure

Step 1 From the main menu, choose **Explore**.

Step 2 To create a baseline, you can create a baseline from a preset icon () from two paths:

- The preset dashlet listed on the **Explore** page.
- The preset details page that is displayed when you click a preset dashlet.

Step 3 Enter a name and description for the preset.

Step 4 Click **Create**.

To view the newly created baseline, from the main menu, choose **Monitor**. All the baselines that are available in your Center are displayed in this page, categorized by the preset for which they were created.

Configure monitored presets

Before you begin

A monitored preset is a preset with a baseline. See Create baselines, on page 2.

In this task, you:

- Define the interval for checking the network against a monitored preset
- Choose the type of event differences you want to view alerts for

Any differences in the selected baseline and the current network status result in alerts that can review and acknowledge.

Procedure

Step 1 From the main menu, choose **Monitor**.

Step 2 For the monitored presets you want to configure, click the vertical ellipsis icon and choose **Monitored preset settings**.

Step 3 For the monitored preset:

a) Enter a monitoring interval, in seconds.
b) If you have created more than one baseline for the preset, in the **Monitored baseline** field, choose the preset you want to activate.
c) In the **Events severity** section, choose the severity level for the alerts generated for each event type.
d) In the **Advanced settings** section, choose the component, property, and activity differences for which you want to view alerts.
e) Click **OK**.

Manage monitored preset differences

This task guides you through acknowledging or reporting a single difference entry.

- To mark a reported event as normal for the network, acknowledge the entry.
- To identify a reported event as an anomaly and create an event in Cisco Cyber Vision Center, report the entry.

After you select a baseline in the **Monitor** page, you have two bulk management options:

- To acknowledge all differences across the components and activities, click the blue tick icon in the left pane
- To acknowledge or report multiple, specific differences in the components or activities listings, select the entries and click **Acknowledge Selection** or **Report Selection**.

Procedure

Step 1 From the main menu, choose **Monitor**.

Step 2 In the **What changed** area, for a monitored preset, click the baseline you want to examine.

Step 3 You can view the differences reported based on:

- New components
- New activities

Step 4 To view the communication flows that may have caused the reported difference, click **Investigate with flows**.

Step 5 In the components list, click an entry to view the details. You can choose from four options:

Action	Definition
Acknowledge Component	You can enter a message explaining your choice for reference. You have two acknowledgement options: • **Acknowledge and include**: Retain this alert and receive new alerts if something new happens with this component or activity. • **Acknowledge and keep warning**: Delete this alert and receive new alerts if the same event repeats.
Ack. with related activities	You can enter a message explaining your choice for reference. Click **Acknowledge and include** to retain the alert and receive alerts for any new events for the component and its activities.
Report component	You must enter a message explaining your choice for reference. You continue to receive alerts if the anomaly is detected again. Click **Report component** to create an event report for this anomaly.
Show details	View device tags and properties.

Step 6 In the activities list, click an entry to view the details. You can choose from three options:

Action	Definition
Acknowledge activity	Acknowledge the reported event as normal for the network. You can enter a message explaining your choice for reference. Two acknowledgement options are available to you: • **Acknowledge and include**: Retain this alert and receive alerts if something new happens with this component or activity. • **Acknowledge and keep warning**: Delete this alert and receive a new alert if the same event repeats.
Report activity	You must enter a message explaining your choice for reference. You continue to receive alerts if the anomaly is detected again. Click **Report activity** to create an event report for this anomaly.

Action	Definition
Show details	View activity tags and variables.

Center Shutdown/Reboot

You can trigger a safe shutdown and reboot of the **Center**.

Use **Reboot** to fix a minor bug, such as a system overload.

To access the **Center shutdown/reboot** page, choose **Admin** > **System** from the main menu.

Upgrade with a Combined Update File

Version releases include a **Cisco Cyber Vision Manual Update Center** update file. To access this file, choose **Admin** > **System** from the main menu.

Important Rolling back to an older Cisco Cyber Version version is not supported.

Requirements

- A combined update to retrieve from cisco.com.

Use the SHA512 checksum provided by Cisco to verify that the file you just downloaded is healthy.

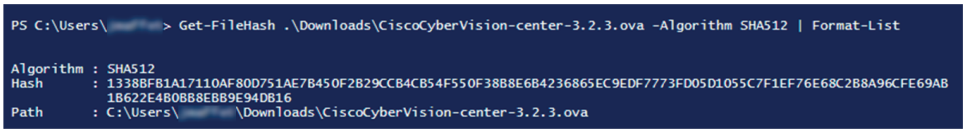
Windows users:

Procedure

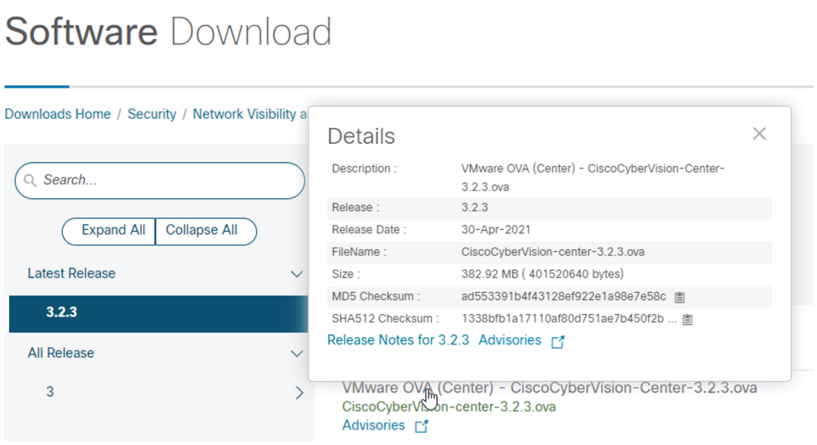
Step 1 Retrieve the Cisco Cyber Vision combined update from cisco.com.

Step 2 Open a shell prompt such as Windows Powershell and use the following command to retrieve the file checksum:

Get-FileHash .\CiscoCyberVision-<TYPE>-<VERSION>.<EXT> -Algorithm SHA512 | Format-List



Step 3 In cisco.com, hover over the file and copy the SHA512 checksum.



Step 4 Compare both checksums.

- If both checksums are identical, the file is healthy.
- If the checksums do not match, download the file again.
- If the checksums still don't match, please contact Cisco support.

To update the Center and all applicable sensors:

Step 5 Log in to Cisco Cyber Vision.

Step 6 From the main meu, choose **Admin** > **System**.

Step 7 Click **System update**.

Step 8 Select the update file CiscoCyberVision-update-combined-<VERSION>.dat

Step 9 Confirm the update.

As the Center and sensors update, a holding page appears. When done, click Center **Reboot**. You will be logged out.

Step 10 Log in.

If sensors were offline when the update occurred, repeat the procedure until all sensors update.

Syslog configurations

A syslog configuration is a network logging setup that

- forwards Cyber Vision events and alerts to an external syslog server,
- enables integration with Security Information and Event Management (SIEM) platforms, and
- supports Common Event Format (CEF) for standardized message structure.

Table 1: Feature History Table

Feature	Release Information	Feature Description
Non-CEF syslogs support removed	Release 5.3.x	You can no longer use non-CEF syslog formats with Cyber Vision Center. When you upgrade to Cisco Cyber Vision Center Release 5.3.x, any existing syslog connections that use non-CEF formats are automatically updated to CEF formats.

Configure syslog

Enable forwarding of Cyber Vision events and alerts to an external syslog server to integrate with a Security Information and Event Management (SIEM) system.

To configure syslog, follow these steps:

Before you begin

- Ensure you have administrator access to Cyber Vision Center.
- Confirm that the external syslog server is accessible. Obtain the host IP address, port, and the required protocol.
- If secure communication is required, ensure you have the P12 certificate from your SIEM administrator.
- Recent syslog format changes:
  - **Standard** and **RFC3164** formats are deprecated.
  - **Standard/CEF** is now named **CEF**.
  - **RFC3164/CEF** is now named **CEF Extended Time Precision**.

Note If the deployment had **Standard** or **RFC3164** formats configured, version 5.3.x setup migrates the configuration to CEF.

Procedure

Step 1 From the main menu, choose **Admin** > **System**.

Step 2 Click **Configure** in the **Syslog configuration** menu.

Step 3 Select **Protocol**.

Note
If secure communication is required, select **TCP + TLS** and import the P12 certificate.

Step 4 Enter the syslog server **Host** IP address and **Port** that are accessible from Cyber Vision Center.

Step 5 Select the required **Format**.

- **CEF**: This format, based on the Common Event Format (CEF) standard, sends events with second-precision timestamps.
- **CEF Extended Time Precision**: This format, based on the Common Event Format (CEF) and an extended syslog header, sends events with millisecond-precision timestamps.

Step 6 Save the configuration.

Cyber Vision Center sends events from the Classic UI to syslog with 'Version Number = 1.0.' It sends alerts from the New UI to syslog with 'Version Number = 2.0.

What to do next

To configure notifications for specific alert types, see Enable or disable syslog notifications for alert types

To export events using syslog, see "Configure event export to syslog (Classic UI)" in the "Cisco Cyber Vision Syslog Notification Format Configuration Guide".

Import/Export

Use the System interface to import and export the Cisco Cyber Vision database. To access the **Import/Export** page, choose **Admin** > **System** from the main menu.

Regularly export the database to back up the industrial network data on Cisco Cyber Vision or if you need to transfer the database to a different **Center**.

Exports database file limitation is up to 2 GB of data. This avoids side effects related to slow database exports. If the database is larger than 2 GB, you get an error message. In this case, connect to the Center using SSH and perform a data dump. Use the command: `sbs-db dump`.

Network data, events, and users are retained, as well as all customizations (e.g., groups, component names).

Only configurations created in Cisco Cyber Vision's GUI persist. If you change **Center**, perform a basic configuration of the Center and then configure Cisco Cyber Vision again. Refer to the corresponding Center Installation Guide.

Note The **Import** process may take one hour for big databases. Refresh the page to check that the import remains active (i.e., no error message).

Knowledge DB

Cisco Cyber Vision uses an internal database which contains a list of recognized vulnerabilities, icons, and threats.

Important To remain protected against vulnerabilities, always update the Knowledge DB in Cisco Cyber Vision as soon as possible after notification of a new version.

To update the Knowledge DB:

Procedure

Step 1 Download the latest.db file available from cisco.com.

Step 2 From the main menu, choose **Admin** > **System**.

Step 3 Click **Import a Knowledge DB** under the **Knowledge DB** field.

Step 4 Select the file and click **Open** to upload the file.

Importing the new database rematches your existing components against any new vulnerabilities and updates the network data.

Certificate fingerprints

A certificate fingerprint is a unique identifier that

- identifies a digital certificate,
- verifies the authenticity of certificates during enrollment and renewal, and
- enables secure communication between Global Centers and synchronized Centers.

Validity and renewal

Use the fingerprint during enrollment with a Global Center or when updating after certificate renewal. The fingerprint validates the certificate and authorizes secure connectivity with remote hosts. For more information on Global Center, see Information and characteristics.

Certificates are valid for 2 years. Upon expiration, renewal and fingerprint exchange typically occur automatically. If automatic renewal fails, perform a manual renewal and provide the new fingerprint to the Global Center. This action restores enrollment and connectivity statuses in the Global Center. See the the Centers Installation Guides for detailed instructions.

Note Always ensure the fingerprint matches the current certificate to maintain secure connections.

Cisco Cyber Vision Telemetry

Telemetry monitors your system to provide anonymous diagnostics and usage data, helps us to understand and enhance product usage. Cisco Cyber Vision telemetry data communication occurs as HTTPS traffic through Port 443 with https://connectdna.cisco.com/.

Telemetry is enabled by default. To disable this feature, follow these steps:

Procedure

Step 1 From the main menu, choose **Admin** > **System**.

Step 2 To disable telemetry, click the **ON** toggle button under the **Telemetry Collection** field.

The switch turns **OFF**.

Reset to Factory Defaults

Only use **Reset to Factory Defaults** *as a last resort*, after all other troubleshooting attempts fail. Get help from product support.

To access the **Reset**, choose **Admin** > **System** from the main menu.

A **Reset to Factory Defaults** deletes the following:

- Some Center configuration data elements.
- The GUI configuration (such as user accounts, the setup of event severities, etc.).
- Data collected by the sensors.
- The configuration of all known sensors (such as IP addresses, capture modes, etc.).

Root password, certificates and configurations from the Basic Center configuration persist.

After a **Reset to Factory Defaults** occurs, the GUI refreshes with the installation wizard. See the corresponding Center Installation Guide.

Snort

A Snort instance is a network intrusion detection system (NIDS) that

- analyzes network traffic for malicious activity using a rule matching engine,
- applies a set of rules that characterize potentially harmful network activity, and
- integrates with Cisco Cyber Vision to provide real-time intrusion detection alerts and management.

Table 2: Feature History Table

Feature	Release Information	Feature Description
Enable or disable Snort on a Center DPI interface	Release 5.3.x	You can enable or disable Snort IDS or IPS on a Cisco Cyber Vision Center DPI interface. Previously, Snort was always enabled by default and could not be changed.

Additional reference information

- Cisco Cyber Vision can run the Snort engine on the Center and compatible sensors. The Center manages rule configuration and distribution. It also intercepts alerts for display in the GUI.
- Snort is disabled by default on sensors. To enable it, activate features of the Intrusion Detection System (IDS). See Enable IDS on a sensor.
- On the Center's Deep Packet Inspection (DPI), Snort is enabled by default.
- Snort is available on the following Cisco devices:
  - Cisco IC3000 Industrial Compute Gateway
  - Cisco Catalyst 9300 Series Switches
  - Cisco IR8340 Integrated Services Router Rugged
  - It is also available by default on the Center DPI.

Snort rulesets and rule categories

The Snort rules are organized into two main rulesets: the Community ruleset and the Subscriber ruleset.

Community ruleset

- Distributed freely and certified by Talos, including rules contributed by the open source community and integrators.
- Represents a subset of the full ruleset available to subscribers.
- Does not include the most recent Snort rules and does not guarantee coverage against the latest threats.

Subscriber ruleset

- Contains all rules released by the Talos Security Intelligence and Research Team.
- Provides rapid access to the newest rules and early coverage of exploits and vulnerabilities.
- Remains aligned with ongoing Talos research for maximum detection capability.
- Requires Advantage licensing and an IDS sensor license for each enabled sensor.

Snort rules are organized into categories, each targeting a specific threat type or platform.

Table 3: Rule categories

Category	Description
Browser	Detects vulnerabilities in major browsers (e.g., Chrome, Firefox, Internet Explorer) and browser plugins such as ActiveX.
Deleted	Contains deprecated or replaced rules.
Experimental–DoS	Rules targeting Denial of Service (DoS) activities such as TCP SYN flooding or DNS/HTTP flooding.
Experimental–Scada	Detects attacks on industrial control system assets.
Exploit–Kit	Tailored to identify exploit kit activities.
File	Addresses vulnerabilities in various file types (executables, Microsoft Office, images, Java, PDF, etc.).
Malware–Backdoor	Identifies traffic to known backdoor command channels.
Malware–CNC	Detects botnet command and control activity (call home, data exfiltration, download of dropped files).
Malware–Other	Covers other malicious tools or miscellaneous malware activity.
Misc	Rules address protocol-specific threats, policy violations such as spam and unwanted applications, and indicators not categorized elsewhere.
OS–Other	Looks for vulnerabilities in various operating systems (Linux, mobile OS, Solaris, etc.).
OS–Windows	Targets vulnerabilities in Windows operating systems.
Server–Other	Deals with vulnerabilities in multiple server types (web servers, database servers, mail servers, etc.).
Server–Webapp	Pertains to attacks against server-based web applications.

Snort rules management features

The Snort rules management system in Cisco Cyber Vision Center includes these features:

Table 4: Snort rules management

Feature	Description
Snort community rules	Snort community rules are set by default in the Cyber Vision Center.
Subscriber rules	Click **Use Subscriber Rules** from the **Admin** > **Snort** page to enable snort subscriber rules (requires Advantage and intrusion detection system (IDS) sensor licenses).
Category-based management	Enable or disable entire rule categories via the GUI.
Direct rule file download	Download rule files per category from the interface.
Individual rule control	Enable or disable specific rules within categories, independent of category status. In the downloaded rule files, locate the rule and get the sid (signature id). Go to **Admin** > **Snort** and enter it in the **Rule sid** and click **Disable** or **Enable**.
Custom rule import	Import and manage user-created rules via the **IMPORT CUSTOM RULES FILE** function from the **Admin** > **Snort** page.
Rule synchronization	Apply synchronized rule sets to sensors using the **Synchronize rules on sensors** feature from the **Admin** > **Snort** page.
Reset to default	Click **RESET TO DEFAULT** from the **Admin** > **Snort** page to restore the entire rule configuration to factory defaults and remove all custom rule files.

Enable IDS on a sensor

Enable Intrusion Detection System (IDS) on a compatible Cisco sensor to activate Snort-based intrusion detection.

Use this task to activate Snort's intrusion detection capabilities on a supported Cisco sensor for network security monitoring.

Before you begin

Ensure your sensor is one of these compatible devices:

- Cisco IC3000 Industrial Compute Gateway
- Cisco Catalyst 9300 Series Switch
- Cisco IR8340 Integrated Services Router Rugged
- Center DPI Interface

Procedure

Step 1 From the main menu, choose **Admin** > **Sensors** > **Sensor Explorer**.

Step 2 Select the sensor you want to enable IDS on.

Step 3 Click **Enable IDS**.

IDS is now active on the selected sensor. Snort will now monitor network traffic for threats.

What to do next

If required, you can disable Snort's intrusion detection capabilities. To do this, select the sensor and click **Disable IDS**.

Risk Score

The **Risk score** page allows you to set up the time range used for risk score computation. To access the **Risk score** page, choose **Admin** > **Risk score** from the main menu. Computation occurs every hour but considers only the activities within the configured time period.

You can select a time range of 30 days (by default), 7 days, or set a custom one with a minimum of one day

For more information about risk scores, see the Risk Score Concept.

Extensions

From this page, you can manage Cisco Cyber Vision extensions. Extensions are optional add-ons to the Center which provide more features, such as the management of new device types, additional detection engines, or integrations with external services. To access the **Extensions** page, choose **Admin** > **Extensions** from the main menu.

Currently, there are two extensions available:

- **Cyber Vision sensor management**

  For more information about this extension and how to use it, see the Sensors.

- **Cyber Vision Reports Management**

  For more information about this extension and how to use it, see the Reports.

To install an extension, retrieve the extension file on cisco.com and click **Import a new extension file** to import.